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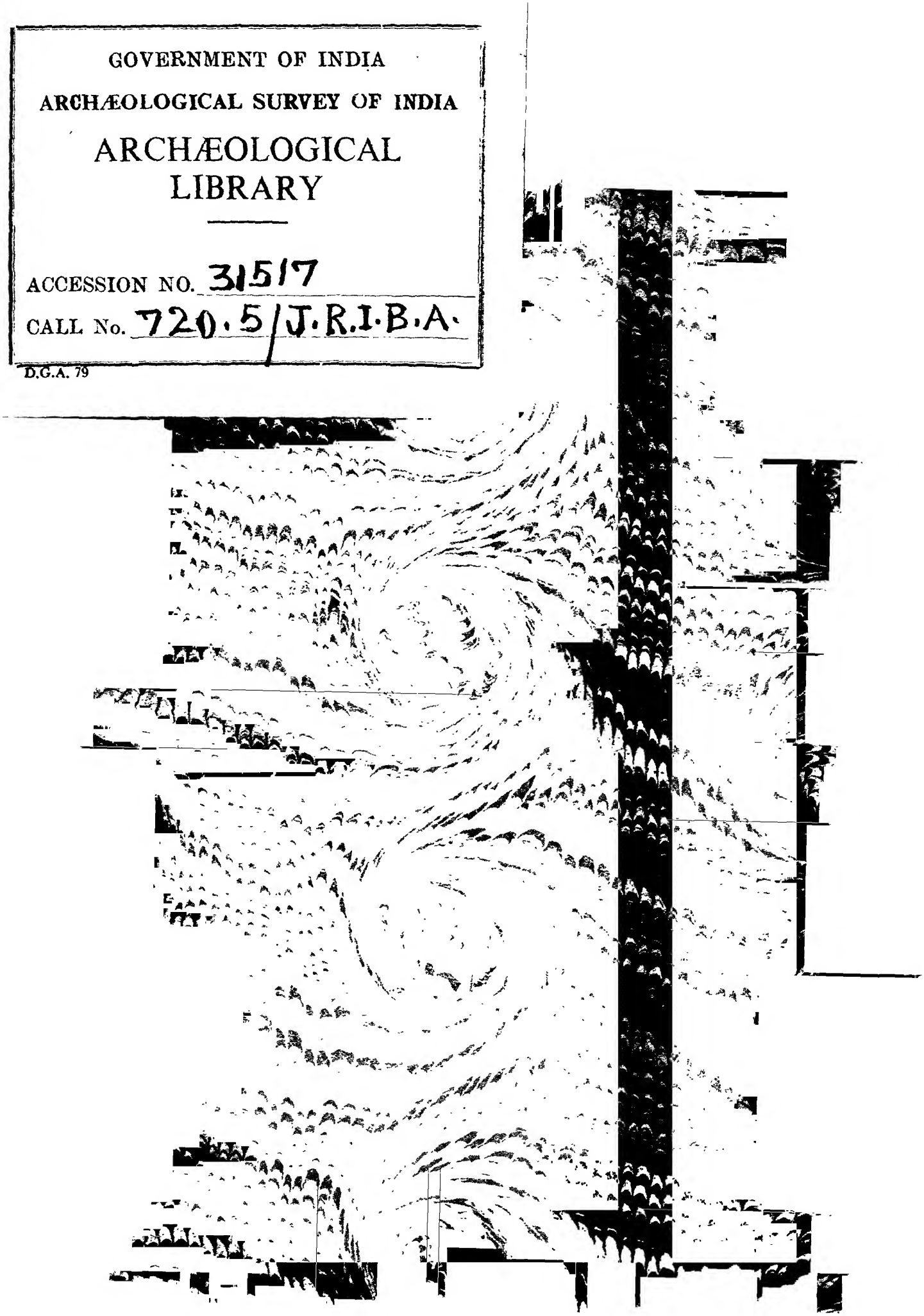

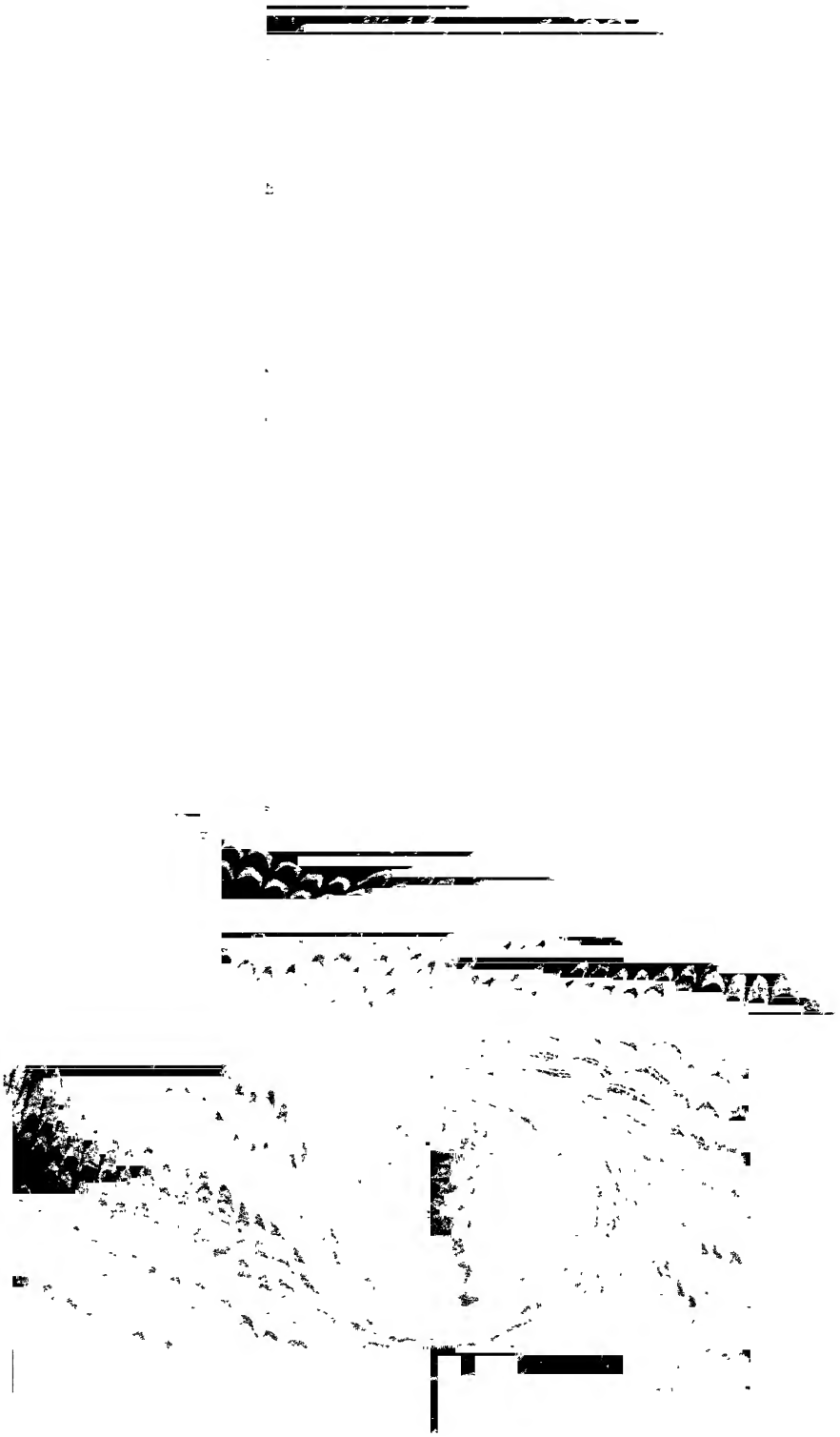

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Seventy-second Session—1906-1907.

THE OPENING ADDRESS. Delivered by the President, Mr. THOMAS EDWARD COLLCUTT, at the First General Meeting, Monday, 5th November 1906.

LADIES AND GENTLEMEN,—

I TAKE the Chair to-night, as President of this Institute, with a very grateful and keen appreciation of the honour conferred upon me by my professional brethren. It is with considerable misgiving and nervousness that I undertake the onerous duties of President, and these feelings are intensified when I remember the exceptional ability my immediate predecessor displayed during his term of office, and the invaluable services he has rendered to the Institute. Nevertheless, I can assure you that I bring to this position an equal devotion to the interests of the Institute, an equal enthusiasm in the work it undertakes, and the same unwavering confidence in its future, believing, as I do, that it works for the welfare of the architect and the advancement of architecture.

Before bringing to your notice certain matters which I think of interest, I must ask you to forgive me if I repeat what has already been ably said. Almost every possible question connected with architecture was debated during the Congress which recently met in London, and it is therefore more than possible that much that I say has been better said before.

Let me begin by calling your attention to a matter which has occupied the Institute for some time past. During the last few years we have passed through a crisis in our history which at one time threatened to involve us in a kind of party politics, with all the attendant evils that beset party feeling. During that period the question of Registration became a very acute one, and it was apparent to all that the whole matter ought to be subjected to an exhaustive inquiry. Such an inquiry has been held by the Committees appointed by succeeding Councils. The Committee which ended its labours last Session submitted a unanimous report to a Meeting of the Institute, the general scheme of which was adopted also unanimously.

The details, however, were referred to the Council, with a direction that they should draw up a scheme for revising the Charter and By-laws, and also a Draft Bill which it was proposed to submit to Parliament. The Council then appointed a Committee to prepare details of the scheme. This they have done so far as the revision of the Charters and By-laws is concerned, and their draft scheme is now under the consideration of the Council.

We anticipate that the revision of the Charter will improve the position of the practising architect. But in dwelling with equanimity on the pleasant subject of our personal welfare, I do not think we should ignore the sad condition of many of our less prosperous brethren.

This painful subject was brought very forcibly to my mind by the many lamentable cases we had to consider at a recent meeting of the Architects' Benevolent Society. I venture to draw your attention to the regrettable fact that among six or seven thousand practising architects in the United Kingdom there are only four hundred and forty-seven who subscribe to this deserving Society.

Is it not the duty of the more successful among us to help those who are less fortunate? I feel that it must be want of reflection alone that causes so many to ignore the repeated appeals for more generous support that are continually made to the profession. I am afraid that as regards generosity in helping our unsuccessful brethren, we architects do not compare favourably with people of other professions. It may be alleged as an excuse that ours is a precarious calling; but that is merely an additional reason why those who have not prospered should receive help. How much more precarious is, for instance, the theatrical profession; yet we find that actors and actresses are more charitable towards their fellows in distress than any other profession. Actors, authors, and managers devote their services and their salaries on one night in each year to the Actors' Benevolent Fund. ***May I suggest that those who have not hitherto subscribed should take counsel with their hearts and generously open their purses, and that some of the annual subscribers should increase the amount of their subscriptions?*** I fear that there are many whom this appeal will not reach; but as I regard this as an important part of my Address, perhaps the Editor of the JOURNAL will permit it to be emphasised by printing it in conspicuous type. This will ensure its being seen, even if the greater part of my Address remains unread.

I feel sure it will not be thought out of place, especially by our younger members, if I say a few words on the momentous question of Public Competitions. It has recently been suggested that in competitions for buildings of any magnitude, the responsibility of selection becomes too onerous to be entrusted to one assessor, and that competitors would feel greater confidence in the judgment of two or more.

I entirely disagree with this idea, and to illustrate my opinion I venture to remind you of the result of the competition for the proposed Peace Palace at The Hague. This competition being of an international character, it was decided to invite six architects, representing various countries, to act as a jury of selection. Our Foreign Office requested the Institute to nominate an architect as representative of Great Britain, and our Council did me the honour to elect me to this post.

During last April I met my brother assessors at The Hague, and we forthwith embarked on the work entrusted to us. Our Committee consisted in all of seven assessors, the President of the Peace Congress acting as chairman and voting with the six architect jurors. In my opinion the combined efforts of the seven jurors resulted in disastrous failure.

To my mind the design placed first in order of merit should not have been placed at all. The instructions to competitors issued by the Peace Committee stated the proposed limit of expenditure. Now all the assessors agreed that the cost of carrying out the selected design would be no less than double the amount specified. Nevertheless, the jury decided by a bare majority that this design should receive the first premium in virtue of the excellence of its plan. It appeared to some of us that this plan possessed undoubted merits, but that these merits existed only because the designer had utterly ignored the limitation of the proposed

expenditure. He would probably be obliged to remodel his plan in order to reduce the cost to a sum approximate to that at his disposal, and the special features that had attracted the assessors would thus be either eliminated altogether or else remodelled to such an extent as to lose the characteristics which had made them specially attractive.

With regard to deciding what style of architecture would be most suitable for a monument of international peace and harmony, the majority of the jury inclined towards the Dutch style of the sixteenth and seventeenth centuries. On the other hand, a minority was in favour of a style common in some degree to most European countries. This minority considered that an adaptation of Italian Renaissance would be more international in character and more suitable in every way than any treatment of Dutch architecture could possibly be. However, the wishes of the majority prevailed. In spite of this, the principal characteristics of the design finally chosen were those of a French château; but I venture to think that this style of architecture, as illustrated by the successful designer, is not quite appropriate to a public and international building.

I have dealt fully, I fear even tediously, with this subject, because I think the result of the competition indicates that the question of assessors requires careful consideration. Should there be one assessor or a jury of several? My experience at The Hague led me to the conviction that when more than one assessor is appointed an altogether futile conclusion is likely to be the consequence. In this case, as I have pointed out, we were six architects, with a layman as chairman. The result of our combined labour was the choice of a design which we all agreed could not be executed under double the amount quoted in the instructions to architects. The design chosen was crowded with picturesque towers, gables, and roofs, most of which were quite unnecessary. As a supplement to our Report we wrote a joint letter to the Permanent Committee wherein we advised that the future buildings should be monumental in character and without exuberance of ornament. We suggested that such extraneous features as towers, cupolas, &c., should be considered with the utmost reserve, and in this way our previous decision was completely stultified.

I think I have shown that the final decision was a stupendous failure. It is probable that when more than one assessor is appointed the sense of individual responsibility is lessened. Perhaps each member of such a jury undertakes his arduous task with a feeling that the final result will be more or less in the nature of a compromise. In a jury of assessors there is also the possibility of a minority report, which may lead to difficulties with the employers, and perhaps to the abandonment of the awards.

To my mind the ideal arrangement for deciding important competitions is the appointment of one chief assessor aided by one, or preferably by two assistant advisers to whom he could turn for counsel or help. The assistants or assistant should have no voice in the ultimate decision; the entire responsibility should rest with the chief assessor.

Although I am of opinion that the Hague competition was a failure, inasmuch as the best designs were overlooked, I do not wish to infer by this that I think competitions are a mistake, and that they fail to secure the best possible designs. On the contrary, I believe that it is to the interest of the public that a competition should be instituted for every proposed public building of importance. I do not deny that there may be many exceptions to this rule. The new Scotland Yard is a notable instance of such an exception; but the architect of that noble work stands by himself, as is recognised, I think, both by the public and by the architectural profession. It is said that buildings erected from competition designs fail more or less in reaching a high standard of architecture. There is, of course, a good deal of truth in this criticism; but I think it cannot be said with any approach to truth that public buildings, where there has been no competition, reach a higher standard.

I think, in the interests of architecture, that every means should be taken to secure the best design possible, and as a rule this can be done by competition. Competition is also invaluable to the young architect for reasons beyond that of striving for a first prize: it gives him the opportunity of comparing his work with that of others and of taking home to himself, if he is modest, his weaknesses. Beyond this there is the chance of discovering genius which otherwise might strive in vain to make itself known.

I think it is a matter of congratulation that the London County Council have decided to institute a competition for the building of their proposed County Hall. But I learn with dismay that it is their intention to make it open to architects of all nations.

There is no precedent for such a course; and I think a vigorous protest should be made, in the interests of both the English public and the English architect, against a course which appears to be unnecessary and unjust, and one which no other nation would think of adopting. It is no question of dislike to meet our foreign brethren in competition that prompts this protest; it is that I feel that an international competition would be a direct slight to English art, and that it is to the English architect we must look for the production of a design that will illustrate the best traditions of English work.

I feel sure you will share my opinion that the results of recent competitions go to prove that the younger generation is fully qualified to continue that advancement in the art of architecture which we all so earnestly desire. May I none the less offer a word of advice to our younger students? All who have had experience in judging competitions must have been struck with the number of designs submitted by competitors who are evidently in the first stages of their studentship. Let me counsel such beginners to realise that the art of design must be carefully studied, and can be mastered only by continued practice. An important competition does not offer the requisite opportunities for the student to learn his craft.

The Institute has been actively engaged in the advancement of architecture during the last Session. I refer particularly to its activities during July last, when the International Congress assembled in London. Unfortunately for myself I was then absent from England, and therefore cannot speak from personal experience of the brilliant success which distinguished the various lectures, receptions, and excursions. It is evident that these periodical gatherings of our confrères of all nations will have very happy results for architecture and for architects. The least that can be said is that we certainly acquire a closer insight into the aims and aspirations of our foreign brethren, who, we find, are in close sympathy with many highly important subjects now engaging the attention of the Institute.

During the assembly of the Congress every subject of interest, from the Education of the Public to Reinforced Concrete, seems to have been exhaustively considered. I think we may hope that such questions as the improvement of our thoroughfares, the execution of important municipal or Government work by salaried officials, the education of the public, and the status of the architect, will not be allowed to pass into oblivion. I have a very strong conviction that there is sufficient energy and enthusiasm among the members of this Institute to keep alive an interest in these questions, all of which tend towards the advancement of our art.

That the Congress passed off so happily, and was such a complete success, was due to the courtesy and tact, and the other personal attributes, of its President; to the unflagging energy and ability of the Committee; and to the zeal of our accomplished Secretary, whose services were indeed invaluable. It has been said in commendation of Count Moltke that he could be silent in several languages: I feel sure that many of our foreign brethren were thankful that Mr. Locke did not consider silence as always commendable.

I believe that not the least interesting of the Papers read at the Congress were those on the question of the Education of the Public. Perhaps I may be permitted to add a few words on this subject. It is one of such importance that I venture to reiterate what others have said.

I remember a passage in Ruskin's *Stones of Venice* which bears very directly on this question. Although there is no doubt that in the present day Ruskin is not considered such an authority on artistic matters as he once was, he certainly spoke many words of wisdom. It has been said that there are two classes of admirers of Ruskin—first, those who believe in him as an Art exponent, but who think him entirely ignorant of political economy; and, secondly, those who believe him to be a political economist, but who declare he knew nothing of Art. However, the words that I will now quote may be put before you, I think, without being challenged in any way. He says: "Every man has at some time of his life personal interest in architecture. He has influence on the design of some public building; or he has to buy and build his own house. It signifies less whether the knowledge of other arts be general or not: men may live without buying pictures or statues; but in architecture all must in some way commit themselves; they *must* do mischief and waste their money if they do not know how to turn it to account. And it is assuredly intended that all of us should have knowledge, in matters with which we are daily concerned, and not be left to the caprice of architects or the mercy of contractors."

I think it may be taken for granted that public taste in painting and sculpture has developed during the last generation; but, notwithstanding the advice of Ruskin, it does not seem that there has been such an awakening of public interest in architecture. It is certain that the average cultured Englishman of to-day shows no such appreciation of architecture as did his predecessors. Our ancestors sought culture in the Fine Arts largely through the study of literature, but more, I think, through home and foreign travel. Undoubtedly far greater numbers travel nowadays; but education in the arts is not really furthered by hurried visits to buildings and galleries, "Baedeker" and "Murray" in hand. In the olden times the Grand Tour was considered a necessity for every cultured gentleman. In Evelyn's Diary there is a most interesting account of the way in which the Grand Tour was undertaken by one who was *par excellence* the cultured traveller of the seventeenth century. I may remind you that Evelyn spent some years in travelling on the Continent, his travels extending from Holland to as far south as Naples. He was always on the alert to obtain introductions to collectors of art objects, and to those interested in architecture and the kindred arts, thus showing that he devoted a large part of his ample leisure during these travels to the study of architecture and the arts. He was undoubtedly more attracted by the Italian Renaissance and the French phase of that style than by mediæval work. He speaks of the Farnese Palace as being built after "the ancient manner, and when architecture was but newly recovered from the Gothic barbarity." Nevertheless there is evidence in the Diary that the "Gothic barbarity" appealed to him in some degree, although he owned to a very decided preference for "the ancient manner." The Grand Tour, without which I believe it is impossible for the layman to make a serious study of architecture, has had a lasting influence on English style.

Evelyn was a man of cultivated taste and wide knowledge, and he undoubtedly possessed very great influence in the architectural world of his day. It is certain that his influence was a powerful factor in the decision that the new St. Paul's should be built (to quote his own words) "with a noble cupola, a form of church not as yet known in England, but of wonderful grace."

It would be interesting to inquire how far the taste of Charles II. was influenced by an

enforced exile in foreign lands. He may have been surrounded by architectural enthusiasts; and his "Grand Tour" (though limited) must have had some influence on his knowledge and taste. One gathers from Evelyn and from other sources that Charles was really devoted to the arts, and this is shown by his interest in all that pertains to architecture and by his fine collection of pictures and other works of art. We have undoubtedly owed many dukedoms to his initiative; but I seriously think that his enthusiasm for architecture encouraged Evelyn and Wren in their determination to give us a "noble cupola" and a new form of church. I connect the names of Wren and Evelyn thus, not because the latter had any part in designing St. Paul's, but because he undoubtedly had some voice in the arrangement of the plan and the choice of a style. I have cited Evelyn's Diary because I think it is shown therein that a successful study and appreciation of architecture can be best obtained by intelligent travelling. But it must be leisured travel; it must not be for the purpose of counting steeples. I am sure that a contemplation of the actual monuments of architecture is always more valuable in the education of the lay public than any other method of study, just as it is in that of the architect himself.

No doubt much knowledge may be derived from the extensive writings on the Renaissance of art and literature given us during the last twenty-five or thirty years. But a discriminating taste in works of art cannot be obtained by reading only. Knowledge derived from books must be reinforced by an earnest study of the actual works of the masters. Unfortunately too many people are content to absorb the views of critics, while they neglect a personal study of the work itself.

A question of paramount interest, not only to this Institute, but to the public generally, relates to the control over architectural schemes in connection with the laying-out of new streets and the erection of public buildings. This question has constantly been before this Institute, and a variety of suggestions have been made, some advocating a Tribunal of Art, others an Advisory Board, working in conjunction with H.M. Office of Works.

I believe the present First Commissioner has instituted some kind of advisory body for the purpose of dealing with the Government offices now in progress of building; but this is only a temporary arrangement. The matter is of such universal importance, and the question of want of intelligent control over public undertakings so often arises, that one cannot but feel that this Institute should give special attention to the subject.

An architectural tribunal might become an influence in dealing with subjects not directly connected with street improvements or the erection of public buildings. For instance, there is one question suggested by our Art Committee on which they have reported, viz. the possible substitution of stone for the present wooden pediment and dome crowning the river façade of Somerset House. It is impossible to conceive that Sir William Chambers would have erected a wooden structure where stone was so obviously the material that should be employed, had not the exigencies of the plan precluded the use of the heavier material. But in this age of steel it would be a comparatively easy and inexpensive matter to add steel stanchions and girders to the interior of the building, and to erect thereon a stone dome. This would only involve trifling alterations to the rooms under the dome.

This suggestion may be criticised on the ground that it is not true construction to erect a stone dome on steel stanchions and girders. But I believe that in Sir William Chambers's time, and since, the present dome was painted to look like stone; and this was surely more in the nature of a sham than the proposal now laid before you.

That there is an interest arising in public thought on such matters as the decoration of our public buildings is testified to by the munificence displayed by some of our citizens in providing the decorative panels in the Royal Exchange. I would, however, venture to say

that had some competent authority—such as an art tribunal—been consulted, we should have had a more complete and harmonious scheme.

What an opportunity for fine decoration awaits fulfilment in the panels of the Central Hall of the Law Courts! These are really better suited to the purpose than those of the Royal Exchange; they are better lighted, and at a better altitude for effect; and, indeed, I believe they were designed by Mr. Street with the idea that they should ultimately be decorated by paintings. The ornamentation of these panels would be a fitting finish to one of the finest Halls in Europe. But unless some public-spirited persons, stimulated and advised, shall we say, by our Art Tribunal, will come forward, this Hall will remain, I fear, a monumental example of the want of thoroughness in completion, and of the want of appreciation of Art, shown by our nation in general.

That they do these things better in France must be apparent to those who know Paris. Let us hope this was impressed on those of our municipal authorities who lately paid semi-official visits to Paris. It was evident to them, no doubt, that the Parisians complete what they set out to do; that they recognise the importance of placing their buildings in an ample space, and arrange that the surroundings shall be in perfect harmony with the buildings. A false economy of space is not the dominant idea when considering the question of improvements to Paris.

The municipal visitors from London probably realised that the French people would not have allowed generation after generation to pass, and still leave St. Paul's crowded in by monstrous warehouses, as we have done.

To illustrate how we conduct matters of this kind I need only mention the work now in progress in St. James's Park. We began well: a design was selected which met with general approval. It was masterly in its conception, and we congratulated ourselves that at last we were in the right direction. We were to have a fitting memorial of our great Queen, the surroundings to which would be treated in a monumental spirit. But what is likely to happen? I am afraid the usual mutilation that ensues from the lack of funds, and I fear it is possible that a feature in Sir Aston Webb's design will be eliminated—the Stone Arcade, a feature which of all others was the one necessary to complete and give full effect to a work worthy of the nation. It is futile to appeal to any Government; but cannot a strong appeal be made, in the interests of Art, to a generous English public, to assist in completing well what is well begun?

The new building for the Hearts of Oak Benefit Society is a fine object lesson to some of our public bodies in well completing what is well begun. The Hearts of Oak Society, composed, as you know, wholly of working men, has shown a very broad and public spirit in the way it has completed, to the smallest detail, what it set out to accomplish. Let us hope this spirit will be maintained, and that it will not succumb to the modern curse—advertisement—and so allow the building to be defaced by monstrous gilded letters.

I hope it may not be out of place if I take this opportunity of referring to the Report of the Royal Commission on the Traffic of London Streets. This Report, issued in June 1905, called forth much criticism and much valuable suggestion from many quarters, but none more interesting to ourselves than the Paper read in this room by Mr. Paul Waterhouse. It seems unaccountable that no one fully qualified to approach the subject from an architectural point of view was selected to act on the Commission: at any rate no qualified architect was consulted. Careful readers of Mr. Waterhouse's able Paper must come to the conclusion that any inquiry such as the Commissioners were instructed to make should take into consideration the general architectural effect of all proposed new thoroughfares. I think that this Institute should endeavour to make itself distinctly audible when any scheme which deals with London

streets is being considered. The Papers bearing on this subject which have been read here show that many architects have made a study of this question. But the general public seems to regard it with indifference, and the constitution of the London County Council does not always enable it to take the broadest and most statesmanlike view of such matters. For instance, in laying out the Aldwych site the County Council has certainly failed to procure the finest view of those great features, the Churches of St. Mary and St. Clement Danes, although at the instance of this Institute some improvements were made to the original plans.

In the present construction of the County Council expert qualification is not a necessary factor. Councillors and aldermen are not elected in virtue of any special knowledge, although undoubtedly there are many amongst them who take an interest in such questions as the present, and who conscientiously study them.

In connection with this question of improvement in our thoroughfares I may refer to the collapse of the Charing Cross Station roof. When this deplorable disaster took place, necessitating as it did the reconstruction of nearly the whole roof and of a portion of the station, it was immediately suggested that a new terminus might be erected on the south of the river. A site on the south side amply sufficient for a much larger station and offices, and also for a new hotel, could have been obtained. The present space occupied by the station and hotel is of such enormous value that the railway company, had they adopted the scheme, would have been but little out of pocket. The gain to the public would have been a new bridge for foot passengers and for wheeled traffic. There can be no doubt that a bridge at this point is much needed, Waterloo Bridge being about 700 yards to the east, and Westminster about 1,200 yards to the south.

I believe the directors of the company fully recognised the fact that a terminus on the south side would have been a great improvement from the point of view of the railway requirements. The vast amount of traffic could have been dealt with more easily. The chief argument that could be urged against the removal of the station was the serious objection that the public would certainly make to crossing the river by an open bridge, exposed to all weathers, instead of entering the station by its present easy access. This objection, in addition to the greater distance of the terminus from the City and West End, might have materially affected the suburban traffic, and it probably decided the directors of the company to remodel their terminus on the original site. But it is quite possible that an opposite decision might have been arrived at could it have been shown that a bridge is not necessarily an open structure.

Would it not have been worth while to consider the possibility of erecting a structure on the principle of some of the mediæval bridges? An obvious suggestion would be a bridge of the type of old London Bridge, the great national wonder of the Middle Ages, and, even as late as the eighteenth century, the only bridge of the capital. Expense, of course, would be a serious objection; but when one considers that old London Bridge was erected by contribution in the reign of John Lackland one wonders whether it would not be possible to achieve a similar masterpiece in the twentieth century, and by the same means. In the sixteenth century Lyly the Euphuist wrote from London: "Of all the strange and beautifull showes methinketh there is none so notable as the Bridge which crosseth the Thames, which is in manner of a continuall street, well replenished with large and stately houses on both sides."

Another point greatly in favour of London Bridge in mediæval times was the connection it made with the suburbs south of the water. In those days Southwark formed comparatively an integral part of London. Shakespeare would hardly have built the Globe Theatre in Southwark if his patrons had had to face the discomforts of an open bridge. It is the present want of easy and convenient communication between the north and south of the river that

prevents the improvement of Southwark and Lambeth. In these localities there is a large area of very inferior property ; but if they were more pleasantly accessible from the City and Westminster the congested areas on the north side of the river might be relieved by extension on the south side. In fact, with a street-bridge communication, Southwark might easily become a real part of the City, and a more important business centre.

Other fine and still existent examples of street bridges are the Ponte Vecchio in Florence, the Rialto in Venice, and the comparatively modern bridge over the Avon at Bath. This last example is, of course, quite a small work ; but it serves to connect, as by a street, two parts of Bath that would assuredly have had a different history had the bridge been merely an open one. It may also be instanced as a successful architectural treatment, especially as seen from the river.

Of course it might be objected that a street bridge or bridges over the Thames would detract from or even destroy the architectural beauty of the Embankment ; and, indeed, any scheme that might endanger the grand effect of this noble work must be approached with the greatest caution. It would never do to imperil the beauty of the only noble engineering work of the last century, nor to spoil the many picturesque views from our London bridges. But, bearing in mind the examples already referred to, I contend that the Thames might be spanned by street bridges which would not in any way detract from its present beauties. The existing bridges at Blackfriars and Southwark might be metamorphosed into stately erections, and a fine site for another "national wonder" could start from the end of Northumberland Avenue.

At the risk of being thought tedious I have alluded to subjects which have been more comprehensively dealt with before, but which I think are of sufficient importance to bear constant reiteration.

It is to be hoped that such questions as the Education of the Public and the appointing of an Art Tribunal are within the range of practical politics.

We may, I think, assume that the important question of the higher Education in Architecture which will be open to the student is attracting the attention it deserves. We may anticipate that in the near future a complete scheme will be developed.

The course of study will probably cover a wider range than it has hitherto done. We may hope that it will be more thorough and more complete, and that it will to a large extent ensure that all those proposing to practise as architects shall have studied the various periods of architecture and have gained some knowledge of the principles underlying style. Even if education goes no further than this, it will possibly spare us many of the efforts of those who show in their buildings that they have not been taught the first elements of their art. It will save us from the conceited ignorance which thrusts upon us so many vain attempts at originality.

At the same time, it is devoutly to be hoped that education will not make us too academic, and that it will not enslave those who feel that they have a message to deliver and an individuality which they must express. Finally, it is to be hoped that it will not result in a dead level of uniformity in our streets, wearisome through too much repetition ; for what is good for a hundred feet may become weak if continued for an indefinite length.

The education of the architect should tend to bring us into closer relations with the sculptor and the decorative painter. The architect should study the sister arts sufficiently to gain some knowledge of the aims of the artists with whom he may have to collaborate.

Of quite recent years an appreciative sympathy seems to be growing up between the various arts, but in spite of this we still see instances of a want of harmony between architect and decorator, or between architect and employer. An example of this is found at the Old

Bailey Sessions House: at one end of the hall is a mural painting which is monumental in character, on a fitting and grand scale, and in perfect harmony with its surroundings. At the other end is a decoration which, however admirable in itself, does not accord well either with the architecture or with the other paintings. This incongruity must surely be attributed to the influence of the employers.

It is impossible to foresee what the future will bring forth; but so much of the work of to-day is of the very highest order, and worthy to be compared with the best that has been done before, that we may look forward to the future in a spirit of optimism.

I think that we are all confident that there is still enthusiasm in our ranks, and that our younger men are inspired by a vital desire to improve and ennoble their art.

VOTE OF THANKS TO THE PRESIDENT.

SIR HENRY TRUEMAN WOOD: Mr. President, Ladies and Gentlemen,—It is, I understand, the kindly practice of this Institute to invite an outsider to undertake a task which could really be very much better fulfilled by some one of your own members, and I must say that when the very great compliment was paid me of asking me to propose a vote of thanks to your President this evening, I was not for a moment deterred by the sense of my own incompetency from accepting it at once and very gladly.

It is, I think, within a few days or weeks, just seventeen years since it was my pleasant duty to intimate to Mr. Collcutt the fact that he had been awarded at the Paris Exhibition of 1889 the Grand Prix for his design of the Imperial Institute. Now I can assure you, Ladies and Gentlemen, that this was a very much greater compliment then than it would be now, because our French friends, however well intentioned they were to ourselves, had by no means arrived at the present condition of the *entente cordiale*, and, while they were perfectly willing to admit our merits in matters of machinery and manufactures, they were by no means willing to acknowledge the supremacy of Englishmen in anything relating to art or to architecture; and for that reason I believe at the time that particular award was very much appreciated by English architects.

Of the very many topics to which your President has referred there are, of course, a great many on which a layman had better hold his tongue; but at the same time there are one or two upon which I think even a layman may have an opinion, and upon which he may avail himself of this opportunity of expressing it. One of these, for instance, is that of the education of the public. As a member of the public I think that in matters artistic what the British public wants is to be made to realise its own incompetence to have any opinion at all. There are very few of us who, at all events before we have read our morning papers, are capable of forming, or expressing, any opinion on matters outside our own ordinary work—and I am quite sure that artistic matters would be better dealt with in this country if those who are competent to deal with them were left to do so unhampered by unintelligent criticism, and uninterfered with by the frequent action of incompetent committees.

There are other matters. One is, for instance, the traffic of London. Now I should like to endorse, from the point of view of the outsider, that most original and valuable suggestion made by your President of what I think he called "street bridges" between the south and the north of the Thames. It is for you architects to consider whether you can construct such bridges without offending the amenities of the situation; but, at all events, you will be very hard put to it before you produce any enormities more abominable than two particular bridges which are at this moment crossing the river. I have always wondered why it was that the south portion of London, Southwark, was in such an unfortunate condition as it is—I mean why it was not utilised in the same way that the portion north of the Thames is for important buildings of various characters. But the President has explained that it is because of the unpleasantness and difficulty of crossing the river. Southwark is quite close to Charing Cross and to the City—it is really on

the way from one to the other; and, if this suggestion of the President can be realised, I think we shall look back, at all events future generations will look back, to his term of office in this Institute with gratitude and with warm recollection of the fact.

There are many other points about the traffic of London, and one point I would venture to refer to is that I think architects, and this Institute, should insist even more than they do upon having a sufficient area in the street for the lofty buildings they are compelled to put up. This is not only a question of appearance and architecture: it is a question of convenience; because we must have wider streets, and we certainly ought to have streets which do not dwarf and render insignificant the enormous buildings it is necessary to put up at their sides. As we were shown in the *Graphic* the other day, Northumberland Avenue is so narrow that you cannot even get the *Dreadnought* up it if you want to—whether you will want to is of course another matter!

Now, Ladies and Gentlemen, I am sure you will agree with me that the engineer would be better if he had in him a little more of the architect. Will you bear with me if I say that the architect has also something to learn from his brother, the engineer? But I think it is really, from the outside point of view—the only one I can possibly take—a hopeful sign in the profession that architects are showing a readiness to avail themselves of the resources and material which modern science is putting in their hands; that they no longer sneer so much at the steel and concrete buildings, but are adapting those materials to buildings of a magnificent and imposing and satisfactory nature. I believe there is a great deal in the future of the profession in this direction, if you will allow me to say so.

And now, without venturing to refer any more to these interesting and valuable topics, I think I may say this, that the Institute is to be congratulated at this particular period of its history, when the chief architectural feature of the era appears to me to be that it is the time of the rebuilding of London, that it should have at its head one who has taken so large and so important a share in that rebuilding. Future generations, I am sure, will look back upon this time as the time when London has been reconstructed; and I doubt not they will realise, as we now at all events realise, that it is fortunate that the Institute which directs architecture in this country should have at its head one who is so thoroughly competent to deal with this very great and important subject. I am sure you will all pass very heartily this vote of thanks to your President for his most valuable and most illuminating address.

SIR ASTON WEBB, R.A.: Ladies and Gentlemen,—I have been asked to second this vote of thanks to our President for his most excellent address, and I need not say that I do this with the greatest pleasure, partly because it gives me the opportunity of congratulating an old friend on the position he now so worthily occupies as President of this Institute, and also because we all recognise the high artistic ideal he has ever set before himself in his work, and the model of integrity in professional conduct we have always had the advantage of seeing in him.

You, Sir, have touched upon a great many points in which I naturally with all our members are enormously interested. One of your first topics, and I think it is one of the topics of almost every Presidential Address I can remember, was that of Competitions. I remember about thirty years ago that you and I, with some others, used to meet in a little room somewhere down by Victoria, trying to get together a memorial in which we pledged ourselves not to enter into any competition unless a professional assessor was appointed. After a great deal of labour—and a great deal of smoke—we managed to get a large number of architects to sign that memorial, and I think it was through your influence, Sir, that Mr. Street was induced to present that memorial to the Institute. It resulted in a number of architects declining to compete unless that condition of an assessor was fulfilled, and in making the appointment of an assessor almost obligatory on those who promoted competitions. It was very interesting to me, Sir, to hear you say, after perhaps thirty years, that you were of the same opinion still, that you thought one assessor was the right thing—and one only. I am bound to say I am of the same opinion. Although I quite see the arguments for a greater number, still I think, on the whole, that justice is better done by one man than by three. He feels the full responsibility of his task, and he alone is responsible to the competitors. Of course they are not all satisfied—they never will be. One only is thoroughly satisfied. That, I am afraid, is one of the necessary concomitants of competitions.

Another matter you referred to in your address, Sir, was the County Hall. I think we must all congratulate the County Council on having selected and obtained such a magnificent site. The only extraordinary thing about it is that no one seemed to have thought of it before; every possible site was thought of until this one was pitched upon.

I think we all believe that nothing could be better than the one at last selected. But then, Sir, I must say I find myself in agreement with you as regards throwing this open to foreign competition. I do not know, but I suppose the thing is settled, and that it cannot be altered; I think, however, that for a London County Hall an Englishman should be the architect. I must say, too, I do not like the idea, when we have got the building, of seeing it labelled, perhaps, "Made in Germany" or other foreign country. I hope, rather, to see it labelled "Made in England."

Then you touched on another more serious topic, and there again I find myself in agreement with you. There is no sadder occupation than to sit on the Council of the Architects' Benevolent Society and hear the story of so many who have gone under in the struggle for a living as architects. I hope that your appeal will be handsomely responded to. For myself, I can only say I shall have the greatest pleasure in doubling my subscription; and I hope many others will see their way to do the same.

Then, Sir, you spoke of an Advisory Committee on the laying out of streets and public buildings. When I had the honour of occupying the chair that you are now in, I brought forward the same proposal; and the then First Commissioner, Lord Windsor, who was present, said that if the Council would memorialise him he would do what he could. The Council did memorialise him, and I believe Lord Windsor laid it before the Government. And I think if this Council were to continue their action something of the sort might in due course be brought about. It has struck me that a suggestion which Mr. Bryan, the American, has made with reference to arbitration between countries, might be adopted as regards the proposed Advisory Board; that is to say, you can hardly expect public authorities to hand over their powers and rights to an outside court, as it were: but if, without power to insist on their ideas being carried out, an Advisory Board were to point out where the scheme failed, and where it might be improved,—I cannot help thinking that these bodies, who I am quite sure really wish as a rule to do the right thing (only they do not always know what the right thing is), when these suggestions were made to them by a competent authorised body, would be induced to adopt them, and this without in any way derogating their powers.

With regard to St. Paul's, Sir, it is rather dull to agree with everything you have said, and so I should like to say that I am not quite sure that St. Paul's would look better if all the buildings round it were cleared away. I think one of the finest views of St. Paul's is that to be obtained when coming along Cheapside you catch a glimpse of the Cathedral through some of those buildings, and it seems to loom in front of you. I think its size is rather increased than otherwise by the buildings; and although of course Salisbury is very magnificent, still I think St. Paul's and many of our other cathedrals amongst the buildings which surround them are, in a different sense, equally effective. And as we are on St. Paul's, I think we might take the opportunity of congratulating Mr. Mervyn Macartney—and also congratulating St. Paul's—on his appointment as the keeper of that noble building. He will have, I believe, a very difficult task; I am told there are tubes suggested all round it, and sewers are to be brought to the south of it, and so on. Although we could very well do without tubes, we cannot altogether do without sewers; still we must certainly see that we do not do without St. Paul's, and if Mr. Macartney has any fear at any time, I hope he will come to this Institute and call upon the public to the rescue of St. Paul's. There is also Westminster Abbey in the same way looking out for some one to take charge of it. We can only hope that the selection may be equally as fortunate and good as in the case of St. Paul's.

You were very kind, Sir, in mentioning with approval the work which has been done in St. James's Park up to the present time. Of course, it is in an unfinished condition now, although little paragraphs appear in which it is said: "This is now quite complete, and it only wants the statue in the middle." That of course is not so: only the broad washes, as one may say, have been at present put in, and it is in an unfinished state. What will be the final form of it I am not in a position at the moment exactly to describe to you; but I think I may say that those who have this great work in charge are quite determined to bring it to a worthy completion. Mr. Brock is now engaged fixing the marble work of his basins and steps, and it is quite hoped that in the spring or early summer the unsightly hoarding may be removed, and that the platform on which the monument itself will stand will be completed, including the fountains, and some of Mr. Brock's very beautiful sculptural work disclosed. We also hope that the present detached piers will then be completed with their sculptural groups. But that by no means completes what it is hoped will finally be done there.

With regard to architectural education, as you

know, Sir, an attempt has been made to co-ordinate it and to bring the various educational bodies somewhat into line. This Institute has never considered itself exactly an educational body, but it can do a very great deal towards it by recognising the work that is done in the various schools, and by relaxing to some extent the enormous amount of labour in the preparation of the testimonies of study which are now required, and also relaxing its Intermediate Examination when a student has shown that he has gone through a recognised course in a recognised school. I very much hope that the Institute will continue in that course, and extend it as occasion requires.

Then, Sir, finally, you spoke of London and the improvements which are taking place here and in the cities throughout the country. I agree with Sir Henry Trueman Wood that we as architects have something to learn from engineers; but I think he also kindly said that engineers have something to learn from us. I do think and feel very much that at present the lay-out of our great cities, and of our streets and buildings, is too much in the hands of the engineer and borough surveyor. They are excellent people—they cannot be dispensed with, and no one has the least wish to dispense with them. Of course traffic and drains we could not do without; but they should not be the only things to determine the lay-out of our streets and public buildings. Beauty should have a place found for it, and the persons who should be able to introduce that element into our street improvements are those who have been trained as experts, and whose lives have been spent in trying to think of what the effect of these will be from an architectural point of view. It does seem strange indeed that public bodies do not recognise more freely that here is a body of men who have devoted their lives to this object, and yet they are so seldom consulted on work of that kind. Public bodies do not seem to come to the architect until the site is settled and everything is cut and dry; whereas the money that is spent on public buildings should be spent on a site which has been most carefully prepared to receive it. It is not sufficient to take a site because the land is cheap, or because it is fairly convenient; there should be as much money probably spent on preparing the site as there is on the building itself. It is recognised in private houses now that the architect should have the direction in arranging the garden and grounds around the houses. We know very well how different our buildings look if attention is paid to the gardens and terraces which surround them; but with many great buildings in our towns, nothing at all is spent upon the surroundings in the way of clearing out and making approaches worthy of the building; hence a great deal of the money spent on these costly buildings is thrown away, because they cannot be seen, and because they cannot be appreciated on account of the slovenly, badly-conceived arrangements by which the buildings are approached. If we can only rouse the public, and if the Institute could lead the public, so that they might begin to believe that their cities might be made beautiful, that London is really a very beautiful place, and has endless opportunities—Mr. Paul Waterhouse, in the paper the President referred to, pointed out many ways by which London might be beautified; and Mr. Norman Shaw the other day indicated several ways by which comparatively easily the most desirable improvements might be brought about in London, and there are many others besides, which we all know. It only requires that somebody should put them into general shape, so that, as alterations take place in London, these opportunities may not be missed. In this way, though we can never have what Wren intended we should have, we may in time have, a London beautiful, of which we shall all be proud, and in which people who walk in it will feel happier and better for doing so.

Sir, I have the greatest pleasure in seconding this vote of thanks to you.

The vote was carried by acclamation.

THE PRESIDENT: I am extremely thankful to Sir Henry Trueman Wood and to—I was going to say my old—I mean my young friend, Sir Aston Webb, for the very kind way in which they have proposed and seconded the vote of thanks to me; and I am equally obliged to you, Ladies and Gentlemen, for the manner in which you have received it.

9, Conduit Street, London, W., 10th Nov. 1906.

CHRONICLE.

The Opening Meeting.

The Opening Meeting attracted as usual a large attendance of members and their friends, the latter including several ladies. Mr. Collcutt took the Chair for the first time as President, and was warmly welcomed by the assembly. Four of the five surviving past Presidents were present—viz. Mr. J. Macvicar Anderson (*President* 1891–94), Sir Wm. Emerson (1899-1902), Sir Aston Webb, R.A. (1902 04), and Mr. John Belcher, R.A. (1904-06). Professor Aitchison, R.A., the other past President (1896-99), was unable to attend; but members will be glad to hear that, in spite of his advanced years (he was a student of the Royal Academy sixty years ago), he is still in the enjoyment of good health, and as keenly interested as ever in the concerns of the Institute and the profession. The Royal Academy was further represented at the meeting by Sir L. Alma-Tadema, O.M., R.A. *H.A.* and Mr. George Frampton, R.A. *H.A.* Of representatives of Allied Societies, Mr. W. M. Mitchell, R.H.A., attended from Dublin, and Mr. Edmund Kirby from Liverpool. The President's Address held the meeting interested throughout, and was frequently applauded. The appeal for the Architects' Benevolent Society was feelingly supported by Sir Aston Webb in seconding the vote of thanks, and as a practical response Sir Aston expressed his intention of at once doubling his subscription to the Society. The references in the Address to the Queen Victoria Memorial in St. James's Park had the happy effect of eliciting from Sir Aston Webb the comforting assurance that the original conception has by no means been abandoned, that the present condition of the Memorial represents little more than the broad washes on the canvas, so to speak; and that those in charge of the work may be relied on to bring it to a worthy completion.

The Statutory Examinations.

Examinations of candidates for the offices of District Surveyor under the London Building Act, and of Building Surveyor under Local Authorities, held by the Institute pursuant to statute, took place on the 18th and 19th October. Of the seventeen candidates who presented themselves for the District Surveyors' Examination nine passed, viz.

Cubitt: Horace William [*A.*]; of 15 Spring Gardens, S.W.

Davidge: William Robert [*A.*]; of 19 Charing Cross Road, W.C.

Elton: Percie Ion; of 113 Gloucester Road, S. Kensington, S.W.

Kenchington: Herbert; of 6 Hamilton Road, Highbury, N.

Lovegrove: Gilbert Henry; of 18 Foxgrove Road, Beckenham.

Rogers: William Herbert; of "The Feathers," Hampton-on-Thames.

Shepherd: Herbert [*A.*]; of 120A Kensington Park Road, W.

Shipwright: William George; of 218 Wellmeadow Road, Catford, S.E.

Young: Collings Beatson; of 61 Carlyle Road, Manor Park, Essex.

These gentlemen have been granted by the Council certificates of competency to serve as District Surveyors under the London Building Act.

In the Examination of Candidates for the office of Building Surveyor under Local Authorities the following and only candidate was examined and passed, and has been granted a certificate:—

Healey: Harry Prince; of 3 Bodney Road, Hackney, N.E.

Newton-in-Makerfield Competition.

The following correspondence has passed between the Secretary of the Institute and the Clerk of the Urban District Council of Newton-in-Makerfield:—

Dear Sir,— *24th October* 1906.

The conditions of this Competition have been brought before the notice of the Royal Institute, and I am directed to lay before you some suggestions as to the modification thereof in accordance with the Regulations issued by the Institute, a copy of which I have the honour to enclose.

The points which make this Competition an undesirable one for architects to enter are:

(1) There is no professional Assessor.

(2) There is no guarantee that the author of the selected design shall be employed.

(3) There are no premiums offered to the authors of the second and third designs.

(4) Competitors are asked to state the terms on which they will be prepared to carry out the work.

The conditions as they stand are such as will compel the authorities of the Institute to insert a request to all Members not to enter for the Competition unless the various modifications which I have indicated are made.—I am, yours faithfully,

(Signed) W. J. Locke, *Secretary.*

The Clerk, Newton-in-Makerfield, U.D.C.

Town Hall, Earlestown, Lancashire.
25th October 1906.

DEAR SIR,

I beg to acknowledge the receipt of your letter of the 24th inst.

I may say that particulars have already been furnished to nearly four hundred architects.

Yours truly,
C. COLE, *Clerk.*

The Secretary R.I.B.A.

Members of the Institute are requested to abstain from entering this competition.

The Colonial Examinations.

At the R.I.B.A. Special Examination qualifying for candidature as Associate held in Melbourne last June simultaneously with the London Examination two candidates presented themselves and were examined, and the following passed, viz.

BRITTINGHAM: SAMUEL CHARLES; of The Public Works Department, Melbourne.

Special Election to Fellowship.

At the Council meeting on the 5th inst., the following gentleman, being President of the Dundee Institute of Architects, was elected to Fellowship under the proviso to By-law 9:—

JOHN DONALD MILLS; of 10 Tay Square, Dundee; and Marsbank, Tayport.

Honours and Appointments.

Mr. John Belcher, A.R.A., *Past President*, has been elected *Membre Agrégé* of the Académie des Beaux-Arts of Antwerp.

The President, Mr. Thomas E. Collcutt, has been elected *Membre d'Honneur* of the Société Centrale d'Architecture of Belgium.

Mr. Mervyn Macartney [*F.*] has been appointed Surveyor to the Fabric of St. Paul's Cathedral.

Mr. W. D. Caröe, M.A., F.S.A. [*F.*], has been elected Master of the Worshipful Company of Plumbers.

Mr. Edwin T. Hall, *Vice-President*, has been awarded a Gold Medal at the Milan Exhibition for Hospital Design.

Mr. Alfred Brumwell Thomas, the architect of Belfast City Hall, and a candidate for the Institute Fellowship, has received the honour of Knighthood in the distribution of His Majesty's birthday honours.

The newly elected officers of the Art Standing Committee are Mr. John W. Simpson [*F.*], *Chairman*; Mr. Henry T. Hare [*F.*], *Vice-Chairman*; Messrs. W. D. Caroe [*F.*] and James S. Gibson [*F.*], *Hon. Secretaries*. This election took place too late for inclusion of the names in the new KALENDAR.

Mr. Henderson's Paper for the 19th.

Mr. A. E. Henderson, who is bringing before the Institute at the meeting of the 19th inst. the results of his researches on the site of the Crœsus Temple of Artemis at Ephesus, was awarded the Owen Jones Studentship in 1897 and a further grant in 1898 for a series of studies in ornament and coloured decoration. He spent his Studentship travelling and studying in Greece and Turkey. He was also a student of the British School at Athens, and made surveys of the city walls of Constantinople and of the city of Cyricus on the Marmora. He acted as architect to the British excavations at Ephesus directed by Mr. D. G. Hogarth for the Trustees of the British Museum in the autumn of 1904 and the spring of 1905. Mr. Henderson is a member of the Royal Society of British Artists, and has contributed to the exhibition just opened in Suffolk Street an admirable colour study of the Chapel of St. Paul and the King's Throne, Monreale Cathedral, Palermo.

Selby Abbey after the Fire.

Mr. J. Oldrid Scott, F.S.A. [*F.*], in a communication to *The Builder* of the 3rd inst., says:—

The injury done to Selby Abbey by the fire does not extend to the outer walls, except to a small degree. Nor are the groined aisles of the nave and choir seriously damaged. The parts of the building which have suffered most severely are the choir, nave, tower, north transept, and the Latham Chapel, where the fire originated. This chapel is east of the north transept, with arches opening into it and into the choir aisle. The effects of the fire here are terrible; the roof has of course gone, as well as every trace of the organ, which filled the chapel, while the face of the stonework has practically been destroyed. Not a scrap of moulding exists in the three arches, and so great was the heat that the stone ribs of the groining in the adjacent choir aisle were completely destroyed. There can be no doubt that the fire started in the organ, spreading from it to the transept and to the choir, while the tower and nave suffered later on. The nave, owing to the fire there having started some hours after the commencement, had but little injury done to its stonework, as the fire brigades from York and Leeds were by then on the spot, and were able to play on the beams of the roof as soon as they fell. The roof was destroyed, but hardly a trace of injury can be found in the arcades and piers.

Very different is the condition of the beautiful choir. Here the burning timbers of the roof fell to the floor and combined with the flames from the stalls and screens, burning the lower part of the fine piers of the arcade so severely that large quantities of the stone have fallen away, necessitating in some cases the immediate shoring of the arches.

Happily the arches themselves, with the beautiful capitals and canopies above, have hardly been touched, though all is much discoloured. The firemen concentrated their efforts to save the grand east window, and succeeded to a very large degree.

The tower is completely burnt out, all the floors and the roof having gone, while most of the bells fell to the floor and broke up, the others remaining perched up in a very insecure position on the iron girders. The whole of the fittings have gone, including the long range of stalls, the numerous screens, the reredos, pulpit and benches. . . .

St. Paul's Ecclesiological Society.

The St. Paul's Ecclesiological Society was started some twenty-eight years ago with the object of promoting the study of ecclesiology among residents in and near London, but the range of its membership has since extended, and it now includes members in all parts of England. About ten meetings are held during the winter, when Papers are read or lectures delivered on subjects connected with liturgiology and ecclesiastical art, history, and archæology. During the summer months visits are paid to churches and other buildings of ecclesiastical interest. The *Transactions* of the Society, well printed and beautifully illustrated, cover a wide range of subjects treated of by specialists in architecture, archæology, and liturgiology. Part I. of Vol. VI., just to hand, has, among other Papers, one by Philip Norman on "The Church of St. James, Garlickhithe," one of Wren's buildings, situated on the east side of Garlick Hill, between Maiden Lane and Upper Thames Street; and Mr. A. Whitford Anderson [A.] contributes an interesting Paper, with illustrations, on the Churches of Hertfordshire.

The A.A. Conversazione.

Space must be found for a word of congratulation to the Architectural Association on the admirable arrangements made for their Conversazione on Thursday evening. No fitter place could be desired than the A.A. quarters in Westminster for a social reunion of architects and their friends. With the beautiful display of sketches, stained glass, and sculpture lent for the occasion; the architectural exhibits; the music, flowers, plants, &c., the effect was most pleasing, and went some way to realise a conception of a Palace of Delight. The President's reception of the guests on the first floor, a radiating point for the various parts of the building, was a great improvement, and avoided the block which was inevitable when the reception took place below. The A.A. Orchestra conducted by Mr. Noel Sheffield, and the A.A. Choral Society conducted by Mr. Harry King, gave a highly commendable and much appreciated performance. The only lady singer, Miss Beatrice Dunn, has a beautiful voice, and rendered her songs with rare sympathy and charm. The collection of Japanese objects lent by Mr. Matt. Garbutt attracted considerable attention. It is not perhaps generally known that Mr. Garbutt is a connoisseur of Japanese art, especially in metalwork; and the objects exhibited, numerous as they were, form but a small proportion of his remarkable collection which has been many years in forming. The new number of the *Purple Patch*, which made its appearance at the Conversazione, is excellent; it fully sustains the *Patch's* reputation for wit, and is a very good shilling's-worth.

Obituary.

News is only now to hand from South Africa of the death, on 19th May 1904, of GEORGE HENRY ALEXANDER, *Fellow*, elected 1886.

HENRY WILLIAM STOCK, *Fellow*, elected 1890, whose death occurred on the 16th ult., was the son of Mr. Henry Stock [*F.*]. He graduated B.A. at Oxford University, and in 1881 passed the Examination qualifying for the post of District Surveyor in London. In 1888 he was appointed to the District of Limehouse, Wapping, St. Katherine, and Ratcliff, and held the post until his death.

GOTHIC ARCHITECTURE.

To the Editor of the JOURNAL R.I.B.A.

DEAR SIR,—Though there is an intimation in your last number that you do not wish the correspondence as to Mr. Prior's and Mr. Bond's works on "Gothic Architecture in England" to be continued, may I ask the insertion of a few lines?

I have carefully read both of these works, and I need not add with great interest and admiration—a personal interest and a professional admiration. I have also read the criticisms and correspondence upon them in your pages. I have my own views as to the relative advantages of drawings specially prepared and the reproduction of photographs, and I think that for real service to the student each of these classes of illustration should be dated, and I find both of these works deficient in this crucial information, which I regret. Our ancient churches have each of them dates of their own, but they each have a history which comes down to the present time. A date attached to a drawing or photograph carries with it an idea of what any draughtsman was responsible to know at the period he made it, and a photograph accentuates the condition of the building at the time with the then present accessories.

I am proud of the references in these books to my father's work, but there are references in both to that work as ignoring the distinction between geometrical and flowing decorated tracery which I cannot understand. A reference to any edition of that work (4th edition, p. 74, for instance) will show, under the heading of Decorated English Windows, two paragraphs treating of the distinction of these two separate descriptions of tracery.

There are also references in Mr. Bond's book to the division of styles adopted by Rickman and others as contravening the generally recognised growth of the successive styles one from another. This is a matter of so great importance that I must be permitted to quote my father's own words in introducing the successive pointed styles as succeeding to the Norman architecture.

."A careful examination of a great number of Norman buildings will also lead to this conclusion —that the style was constantly assuming a lighter character, and that the gradation is so gentle into Early English that it is difficult in some buildings to class them, so much have they of both styles; the same may be said of every advance, and this seems to be a convincing proof that the styles were the product of the gradual operations of a general improvement, guided by the hand of genius, and not a foreign importation" (p. 38). This is emphasised by Parker in a long note in the sixth edition.

It may be, as Mr. Bond states, that Rickman's nomenclature is *dead*; Latin is now a dead language, but is still of service on occasion.—Your obedient servant,

THOS. M. RICKMAN.

To the Editor of the JOURNAL R.I.B.A.

DEAR SIR,—Mr. Francis Bond has, I am sure, gone beyond the limits you intended for him by again making statements as to my published opinions. He writes you: "Mr. Prior still plumes himself on seeing no difficulty in the existence of fourteenth-century Flamboyant in Brittany in churches of which, at that time, not one stone had been laid." May I trespass on your space sufficiently to say that this is not true?

He also imputes to me that I reject the authority of Professor Willis, Mr. Edmund Sharpe, and of M. Camille Enlart. He has no foundation for the supposition. I need not make my peace with the dead, but as to my friend the distinguished French archæologist I may be allowed to protest that Mr. Bond has stumbled on another mare's-nest. What I reject are Mr. Bond's misrepresentations of these authorities. Not even his infallibility can make their written texts other than what they are. And now I am quite content to be in the same box with Willis, Sharpe, and Enlart —and Mr. Rickman. In such distinguished company I would willingly be misread and misquoted. But I have warned Mr. Bond's readers, and they will have the quarrel with him.—Believe me, yours faithfully,

EDWARD S. PRIOR.

REVIEWS.

PUBLIC BATH BUILDINGS.

Public Baths and Wash-houses: A Treatise on their Planning, Design, Arrangement, and Fittings. With 274 illustrations. By A. W. S. Cross, M.A. Price £1 1s. net. [*B. T. Batsford, 94 High Holborn, W.C.*]

The architectural possibilities open to the designer of public baths have, as Mr. Cross says in his introductory chapter, been almost entirely overlooked, and a comparison of what was at the time of the Roman Empire considered as a necessity, with what we are accustomed to consider sufficient, must lead us to somewhat humiliating conclusions.

As Mr. Cross points out with justice, communities are willing to spend immense sums on monumental buildings for hospital purposes, though the advance of scientific knowledge may render such buildings comparatively useless in the course of a few years, while, in the case of bath construction, we are ready to put up with cheaply built and badly designed buildings instead of more architectural monuments which would be of permanent use. The advantages claimed for the amphitheatre plan are well and convincingly urged. The author's plans for baths at Haggerston and Liverpool well illustrate the merits of this system.

Chapter II. contains some useful criticism on sites and general arrangement. The advantages on a confined or awkward site of the quadrangular system of planning are very obvious. It may almost be said that the worst sites for most buildings may (by the use of an internal quadrangle) become the best for baths, providing only they are sufficiently large, because they give an opportunity for fine internal effects, besides greatly simplifying the arrangement of a building requiring an unusual number of doorways. The relative importance of the various departments is analysed and described in this and succeeding chapters, which are very fully illustrated in a way which should prove most useful to designers of public baths. The manner in which the County Council requirements as to public baths may best be met are also considered.

Chapter IV. deals with the planning and construction of the swimming bath with its galleries. The question of design of the lantern or other lights is considered, and the unsightly nature of the ordinary lantern light emphasised. It seems, however, questionable whether this difficulty is not inseparable from any form of lantern light, however treated. Copious notes are given as to the methods of constructing the bath pond, and also the temporary wooden floors required in cases where the pond is used as a hall. Mr. Cross does not go into the question of the use of reinforced concrete for bath ponds, for which purpose it seems unusually well adapted.

A further section gives a number of examples of bath planning and design. That submitted by Mr. Cross, for Chelsea, is an admirable example of the planning required to meet the County Council requirements, and is most architectural in its lines. The author's design for public baths at Clapham is also an interesting example of planning on a small site of irregular form. Among the other designs illustrated are those of Messrs. Jemmett and Taylor at Tottenham; an admirably laid-out plan for Selly Oak, by Mr. Payne; the Fulham baths, by Mr. Dighton Pearson, and many others, including the author's able scheme for Haggerston.

Chapters on Slipper, Lavatory, Splay and Lussar Baths, Laundries and Establishment Laundries follow, and full and exhaustive chapters on the Boiler House, Pump Room, and other engineering details, and on heating and ventilation, cost, administration; and the Acts relating to the subject conclude a very useful and exhaustive work on a subject which is by no means well understood.

The book is illustrated by 274 drawings, mostly to scale, and will form an exceedingly valuable book of reference to all engaged in similar work.

HERBERT W. WILLS.

ARCHITECTURAL TERMINOLOGY.

A Glossary of Terms used in English Architecture. By Thomas Dinham Atkinson. Lond. sm. 8o. 3s. 6d. net. [Methuen & Co., 36 Essex Street, Strand, W.C.]

In the introduction to the New English Dictionary, Dr. Murray compares the vocabulary of English-speaking men to one of those nebulous masses, familiar to the astronomer, in which a clear and unmistakable nucleus shades off on all sides until it loses itself imperceptibly in the surrounding darkness. This clear nucleus represents the common words of the language, the words in every-day literary and colloquial use, whose "aglicity," as he calls it, is unquestionable; and the surrounding mass of gradually decreasing definiteness, the numberless scientific, technical, foreign, dialectal, and even slang words, whose right to inclusion in an English dictionary is often difficult to determine.

It is to this indefinite outer ring that very many of the words found in books dealing with architecture belong. Some of them are workmen's terms, as "pediment," formerly "periment," supposed to be an ignorant mispronunciation of "pyramid." Others are purely foreign words, as "flèche" or "opisthodomos." Others, again, as "quirk" or "brattishing," are old native words now fallen out of common use; while yet others are the invention of quite recent years, as "lychniscope," a word coined, about sixty years ago, by a member of the Cambridge Camden Society to describe the opening, of obscure use, otherwise known as a low-side window.

Such words as these puzzle the beginner in the study of architecture, and for his help many special dictionaries and glossaries have been compiled, the most recent being one by Mr. Thomas Dinham Atkinson, entitled *A Glossary of Terms Used in English Architecture*, a well illustrated little book whose worth is not to be measured by the very reasonable price at which it is published.

Mr. Atkinson (who, it may be recalled, is the author of a history of English Architecture reviewed in the JOURNAL for 27th August 1904), remarks in his preface that his book will be found to differ from others of a similar character in the greater space that has been devoted to matters bearing on the religious and social life of the people. Thus the article on "Monastery" extends to no less than twelve pages, and is illustrated by plans of the Cathedral Church and Benedictine Monastery of Ely, and the Cistercian Abbey of Fountains. A similar amount of space is allotted to "Church," * and other words which may be mentioned as receiving special attention are "College," with plans of Queen's College, Cambridge, and New College, Oxford; "House" with plans of Horham Hall, Essex, and of Haddon Hall, Derbyshire; and "Castle" with plans of the White Tower, Tower of London, and of Farnham Castle, Surrey.

To mention all the interesting articles in the book would, of course, be impossible; but note may be made, among others, of those on Roof, Tracery, Moulding, Library, Monument, Painting, Foliage, and Theatre, most of which are fully illustrated. There is also an appendix containing a list of saints most commonly met with in painting and sculpture, with the manner in which they are represented; a table of the Religious Orders in England and Wales at the time of their suppression by Henry VIII., with the number of houses in the possession of each Order; and a list, which might easily have been extended, of English architects, from Hawthorne, who flourished in the time of Elizabeth, to George Edmund Street.

It should be added also that the author has not confined himself solely to words used in English Gothic architecture; he has included articles on the architecture of Greece and Rome, on the Orders, on the plans of classic temples, and on many classic terms necessary to a proper understanding of Renaissance architecture. He has gone even farther than this, and has found room for Byzantine architecture, and one regrets that, having included it, he can find nothing more illuminating to say of it than the bald statement that it was "the architecture of Byzantium, the ancient Constantinople." It would also have added to the completeness of the historical survey in the article on Dome if reference had been made to the use of that feature by the Byzantine builders. In connection with this article on Dome it may be pointed out that, in view of the well-known series of domed churches in the Charente, the statement that mediæval domes are "confined to Spain and Italy" is misleading.

But these, after all, are minor matters, and one can safely recommend Mr. Atkinson's excellent little book to everyone desiring a well illustrated and well written glossary of the terms used in English architecture.

Erdington. BENJAMIN WALKER.

* Mr. Atkinson derives the word "church" from κυριακός. τὸ κυριακόν would, perhaps, be more correct. Fergusson's suggestion that the basilica was the place of assembly of the early Christians, the *ecclesia* of the faithful, and that the place for initiation into the sacred mysteries, the church proper, was a circular building, may or may not be true: but the support he obtained for his views by deriving the words "church," "kirk," "kirche," and so on, from Latin *circulus* is, of course, valueless.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1906-07, held Monday, 5th November 1906, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair, 52 Fellows (including 16 members of the Council), 63 Associates (including 3 members of the Council), 4 Hon. Associates, and several visitors: the Minutes of the Meeting held 25th June 1906 [JOURNAL, Vol. XIII. p. 450] were taken as read and signed as correct.

The Hon. Secretary formally announced the decease of the following members, notice of which had previously been given in the JOURNAL:—William John Gant, Roger Thomas Conder, Joseph Gale, and Thomas Barnes-Williams, *Fellows*; Frederick William Ledger and Charles Long, *Associates*. Also of George Murray Alexander and Henry William Stock, *Fellows*.

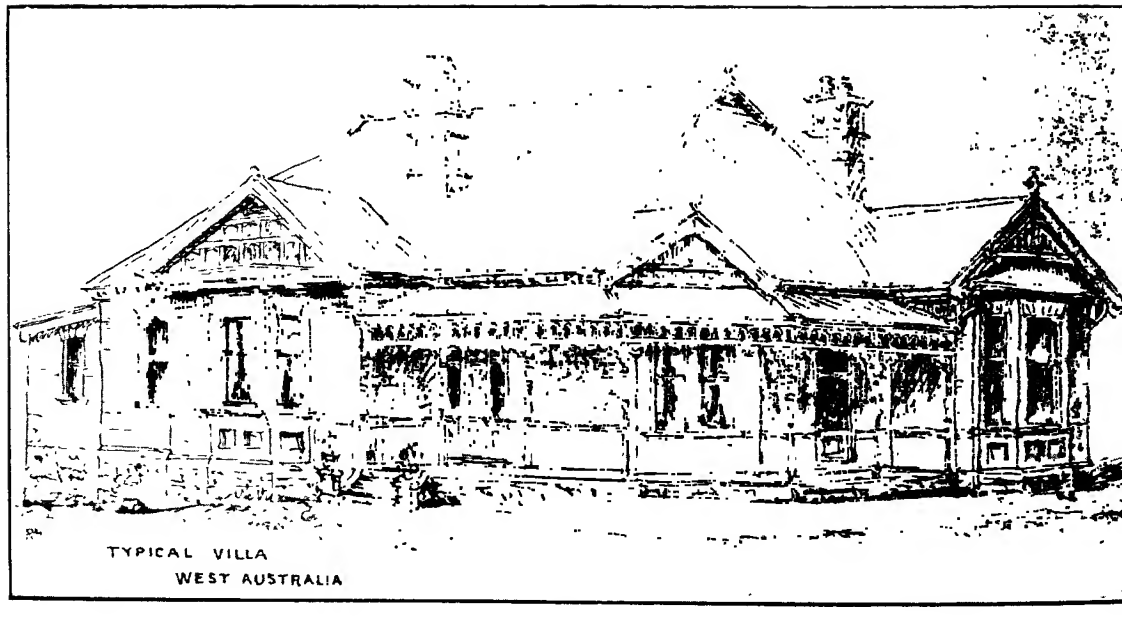
The following Associate attending for the first time since his election was formally admitted and signed the register—viz. Herbert Ryle.

The Hon. Secretary announced the results of the Statutory Examinations held in October [p. 15].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election:—As FELLOWS [79]: William Adamson (West Cape Town, South Africa); George Lennox Beattie, Assoc.M.Inst.C.E. (Edinburgh); George Bell (Glasgow); Edward M. Blake (Wellington, New Zealand); John Henry Blizard, Assoc.M.Inst.C.E. (Southampton); Detmar Jellings Blow [*Pugin Student* 1892]; Cecil Claude Brewer [*Pugin Student* 1896]; William Lobin Trant Brown; Rudolph Maximilian Butler (Dublin); William Henry Dashwood Caple (Cardiff); Frank James Chambers Carruthers, J.P. (Dumfries); Marcus Evelyn Collins; Albert Selmar Conrad (Adelaide); William Cooper (Huddersfield); William Morton Cowdell (Leicester); Harry Bulkeley Creswell; William Crichton (Wellington, New Zealand); James Davidson, J.P. (Coatbridge, N.B.); William Lionel Eves [*A.* 1891] (Uxbridge); James Fasnacht; William John Fennell, F.R.S.A.Ireland (Belfast); Henry William Finch; Edwin Wollaston Fritchley, F.R.G.S. (Bombay); John Gaff Gillespie (Glasgow); George W. Hamilton-Gordon [*A.* 1886] (Orange River Colony); Claude Harrison; Frank Morrish Harvey [*A.* 1892]; Peter Lyle Henderson (Edinburgh); Robert Allsebrooke Hinds; George Stanley Hudson (Durban); Thomas Stewart Inglis; Arthur Rutherford Jemmett; William James Kemp; Sydney Decimus Kitson, M.A.Cantab. (Gledhow, Leeds); William George Blackmore Lewis [*Grissell Medallist* 1878]; James Hector McKay (Wellington, New Zealand); John Campbell McKellar, J.P. (Glasgow); Charles Rennie Mackintosh (Glasgow); William Hunter McNab (Glasgow); Duncan McNaughtan (Glasgow); Archibald Macpherson, F.S.A.Scotland (Edinburgh); Ninian MacWhannell (Glasgow); Henry Edmund Mathews (East Grinstead); Stanley James May; Graham Nicholas (Halifax); William Thomas Oldrieve, F.S.A.Scot. (Edinburgh); James Wallace Paton (Durban, South Africa); James Piggott Pritchett (Darlington); Edward Keynes Purchase; Walter Reid (Johannesburg); David Robertson, A.R.S.A. (Edinburgh); Walter Wood Robertson, F.S.A.Scot. (Edinburgh); James Salmon (Glasgow); Jonathan Simpson (Liverpool); Ernest Willmott Sloper (Johannesburg); Arthur Pole Small (Herefordshire); Arnold Dunbar Smith [*Godwin Bursar* 1903]; Alfred Steinthal (Manchester); Harold Sudlow (Calcutta); Alfred Swash (Monmouthshire); Harry Ramsay Taylor (Edinburgh); Isaac Taylor (Manchester); Sir Alfred Brumwell Thomas; Richard Wellings Thomas (Llandrindod Wells); James Baird Thomson (Glasgow); William Aitken Thomson (Glasgow); George Alexander Troup (Wellington, New Zealand); William Joseph Waghorne (Calcutta); William Snowball Walker (Hull); William Thomas Mynors Walker; John Waterson (Johannesburg); John Watson (Edinburgh); William Fleming Wilkie (Dundee); James Leonard Williams; Cecil Locke Wilson (Cardiff); George Edward Withers; Ernest Woodhouse (Manchester); Percy Scott Worthington, M.A. [*Inst. Medallist* 1889, *A.* 1890] (Manchester). As ASSOCIATES: Dennis Bamford [*Probationer* 1902, *Student* 1903]; Henry Blackadder [*Probationer* 1900, *Student* 1904] (Scotland); Arthur George Bray [*Probationer* 1901, *Student* 1905] (Blackburn); Albert Edward Brooker [*Probationer* 1898, *Student* 1902]; Archibald Bulloch [*Probationer* 1902, *Student* 1903]; William Wellesley James Calthrop [*Probationer* 1901, *Student* 1904]; Harry Reginald Coales [*Special Examination*] (Leatherhead); Owen Hanworth Cockrill [*Probationer* 1899, *Student* 1902] (Great Yarmouth); Tilleard Horace Osman Collings [*Probationer* 1895, *Student* 1904] (Brighton); William Henry Howard Cooke [*Probationer* 1901, *Student* 1902]; Reginald Wentworth Alfred James Cosway [*Probationer* 1898, *Student* 1901]; Harry Beecroft Downs [*Probationer* 1901, *Student* 1904] (Guiseley, Yorks); Charles William Eaton [*Probationer* 1901, *Student* 1903] (Bolton); Ernest Harcourt Edleston [*Probationer* 1899, *Student* 1902] (Nantwich); George Arthur Farrar [*Probationer* 1900, *Student* 1902] (Manchester); Francis Henry Fitzgerald [*Special Examination*]; Frank Jamieson Forster [*Probationer* 1897, *Student* 1901]; Frank Burwell Foster [*Probationer* 1901, *Student* 1902] (Weston-super-Mare); James Black Fulton [*Special Examination*]; Edward Hall Gandy [*Probationer* 1902, *Student* 1904] (Wolverhampton); Laurence Mursell Gotch [*Probationer* 1899, *Student* 1902]; Arthur Christopher Goulder [*Probationer* 1900, *Student* 1903]; James William Hepburn [*Probationer* 1902, *Student* 1904]; George Bernard Holland Hoole [*Probationer* 1891, *Student* 1900]; Percy Cartwright Hoy [*Special Examination*] (Manchester); Francis John Humphry [*Probationer* 1889, *Student* 1902] (Surbiton); David Bateman Hutton [*Probationer* 1900, *Student* 1902] (Glasgow); Ernest Thomas Jago [*Special Examination*]; Edwin Riddell Kennedy [*Probationer* 1898, *Student* 1902] (Belfast); Clifford Copeman Makins, B.A.Cantab. [*Probationer* 1903, *Student* 1904]; Hugh John Cole Marshall [*Probationer* 1900, *Student* 1902]; Harry Moss [*Probationer* 1898, *Student* 1905] (Manchester); Sydney Moss [*Probationer* 1900, *Student* 1903] (Eccles); Joseph Edward Mundell [*Probationer* 1899, *Student* 1901] (Dorset); Harold Franklyne Murrell [*Probationer* 1900, *Student* 1902]; John Newton [*Special Examination*]; John Parlett [*Probationer* 1898, *Student* 1900]; Stanley Highfield Penlington [*Probationer* 1899, *Student* 1901] (Bristol); George Edward Phillips [*Probationer* 1901, *Student* 1903]; Harry Arnold Rowbotham [*Probationer* 1897, *Student* 1899]; Joseph Rycroft [*Special Examination*] (Bradford); Walter Puckering Rylatt [*Probationer* 1901, *Student* 1903] (Leeds); Jasper Philip Salwey [*Probationer* 1904, *Student* 1905]; Victor George Santo [*Probationer* 1901, *Student* 1903] (Shrewsbury); William Peel Schofield [*Probationer* 1903, *Student* 1904] (Leeds); Henry Shackleton [*Probationer* 1901, *Student* 1903] (Keighley); James Smith [*Probationer* 1895, *Student* 1903] (Glasgow); Francis Adams Sprules [*Probationer* 1899, *Student* 1902] (Sheffield); Fredrick George Stockdale [*Probationer* 1898, *Student* 1902]; Charles Reginald Thickpenny [*Probationer* 1896, *Student* 1900] (Watford); Wilfred Irwin Travers [*Probationer* 1901, *Student* 1904]; Edward Holsworth Walker [*Probationer* 1899, *Student* 1901]; Ewart G. Walker [*Probationer* 1901, *Student* 1903]; Bernard Michael Ward [*Special Examination*]; Bryan Watson [*Probationer* 1901, *Student* 1904]; Bertie Cecil Westwick [*Probationer* 1902, *Student* 1904]; Austin Woodeson [*Special Examination*].

The President delivered the OPENING ADDRESS of the Session, and on the motion of Sir Henry Trueman Wood, seconded by Sir Aston Webb, R.A., a vote of thanks was passed to him by acclamation and briefly responded to.

The proceedings terminated at 9.30 p.m.



TYPICAL VILLA
WEST AUSTRALIA

DOMESTIC ARCHITECTURE IN WESTERN AUSTRALIA.

By R. M. Hamilton [A.], Perth, W. Australia.

It may be of some interest to English architects to know what is going on in this part of the Empire in regard to the evolution in the planning of small houses, and the direction it is taking. The present notes will be confined to the small house, for the large villa and comfortable gentleman's house do not differ from such dwellings in other places. What is here recorded will also apply more or less generally to the whole of Australia.

As everywhere through the ages, the plan of the small house in West Australia is the result of conditions and circumstances, such as climatic conditions engendering habits, and economic circumstances deciding the size and expenditure. Climate all through Australia is bringing about a differentiation in social and domestic arrangements already. Evolution in planning in architecture to meet these new conditions along new lines is beginning to manifest itself with some distinctness.

The following remarks will be confined, as above stated, to the more usual and common types of the middle-class requirements, the vernacular, so to speak. The best class of villa of nine or ten rooms and of two stories, the terrace of houses which is beginning to become common, will be purposely omitted from consideration. The first class, it may be remarked, is quite on a par with what may be found elsewhere; and of the terrace it may be noted that verandas and balconies form a prominent feature along the front, and very often at the back, of the building, the front veranda being generally rendered an eyesore from the trumpery cast-iron ornament hung about it, at the same time that the irremediable brick party-walls push through the roofs and beyond the fronts in a hopeless manner of treatment. Nature, however, if the occupants will take her into partnership, will soon cover the more glaring deficiencies with a mantle of greenery; a couple of seasons will make a new establishment look quite homely with a screen of leaf and flower about the veranda posts.

The conditions which are here influencing house planning are the climate and the purse.

The warmth of the climate induces the habit of sitting outside a great deal during the evenings, so that the veranda is a universal and necessary feature to the smallest cottage as well as to the large villa. The veranda also helps to give shade and shelter from the sun on one or more sides of the house, very often on two sides and the rear, where the kitchen and offices are found. It is of ample width, seldom less than seven and often nine feet. The houses themselves, being flimsily constructed, as no severe cold has to be provided against, require these verandas. The front veranda is very often provided with the electric light for evening use, when the screen blinds are lowered. Nature's screen of creepers is also brought into requisition, some of the native kinds having handsome flowers and foliage, which add considerably to the external appearance of the house. When the kitchen and offices have to face east, north, or west, as they must do on city and suburban lots, a wide veranda is often provided, where in summer a good part of the kitchen work is carried on. Often a small cooking stove or the domestic wash-troughs or sinks are placed there. The practice has arisen, too, of dividing off an end of this veranda to form an outside bathroom, but this arrangement cannot be defended as a piece of good planning. During the summer evenings the people read, work, talk, or play cards under these verandas, making an open-air sitting-room of them: the dislike of being overlooked by passers-by, which is so marked in England, is outweighed by the considerations of comfort and enjoyment.

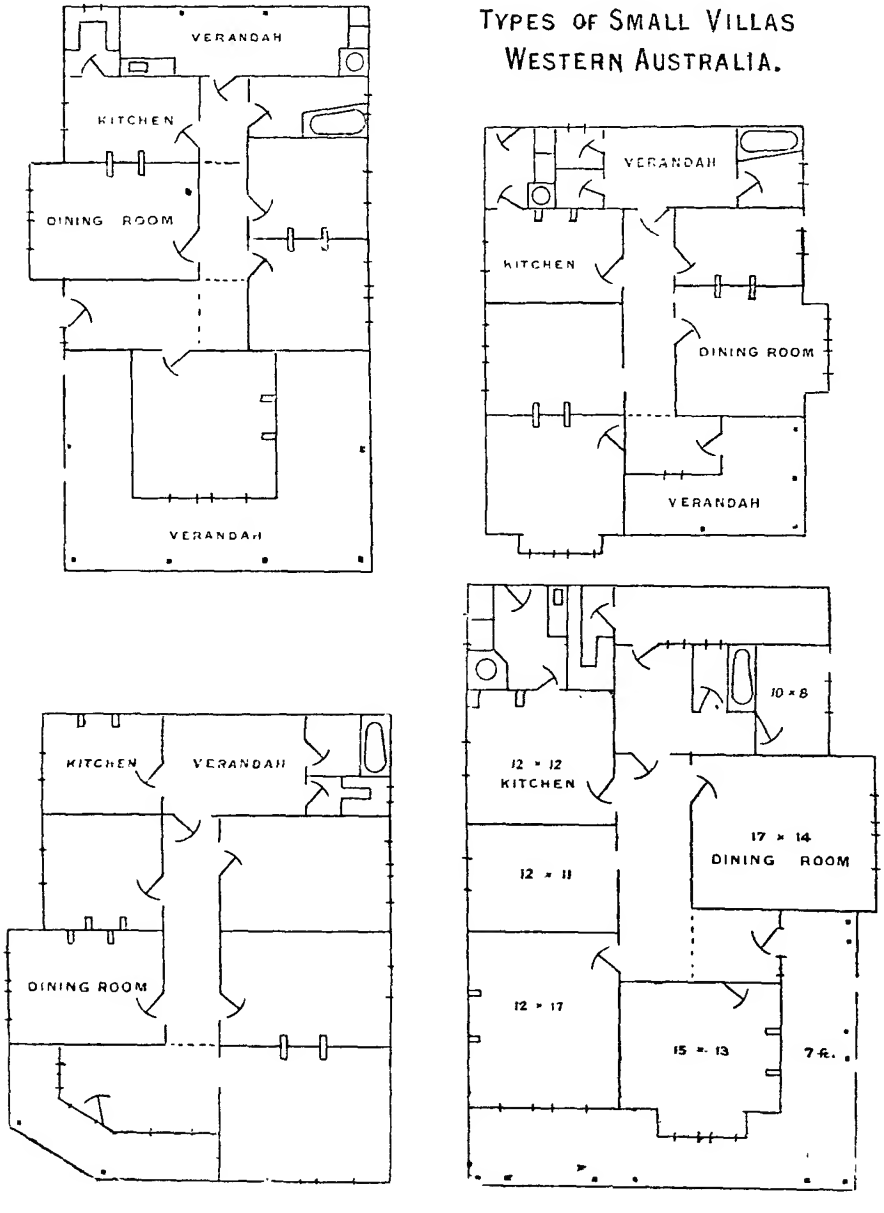
The houses of the type under consideration are not of a complete and substantial nature as a rule. The desire to possess as much covered area as the purse will stretch to has caused over-economy in substantial construction, and I am afraid the notions of construction of some of our English brethren would receive a severe shock on their first introduction to local methods. These dwellings, therefore, are not built with the particular view of excluding heat, and cold does not enter into consideration. The primary consideration is that of inclosing as large a space between walls as possible. The universal material for roof-coverings is galvanised iron, occasionally tiles, very rarely slates. There is no further protection from the heat between the roof and the plaster ceilings of the rooms. Boarding or felt is never used as an extra layer to intercept the fierce blaze. The iron is nailed to light battens spaced about four feet apart, and the battens themselves are nailed to light rafters, 4 or 5 by 2 inches, spaced about three feet apart. A fair number of roofs are covered externally with a white paint of some description or other, which reflects an appreciable amount of heat. It can be imagined that under these circumstances the rooms remain uncomfortably close until late in the evening, while outside the temperature will have become pleasantly cool. Brick is the principal material for building, and hollow walls are nearly universal, but more for the purpose of excluding wet than heat. Shutters as another aid to keeping the interior cool are one of the points economy is practised upon.

All through Australia the climate is tending to make the people approximate to the Southern European peoples in habit. They spend a far larger part of the twenty-four hours outside the house than is the custom in England, and there can be no doubt that this trait will become more fully developed in the near future.

The cost of building is the second governing condition, and the one desire is to get as much space inside the four walls as possible. To this end interior finish or external embellishment is strictly subordinated. Constructive strength is pared down, and the architect is left with very little scope for the display of his powers. Again, the large majority of the houses being of one story, and of a bungalow type of design, not much exterior effect can be gained. This is still further limited by the restricted size of the building lots, which have mostly been cut up into very narrow frontages. The houses approach close to the side boundaries in consequence, and no bold projections at the sides can be thrown out. Generally

a portion of the front is thrown forward, finishing in a gable, which runs back into the main roof; or a bay window with square or canted sides is projected, which is also finished with a gable larger than actually necessary to cover it, to produce a bolder effect in the roof. The same principle is effected along the side, where a part is made to project sufficiently far to stop the veranda against, and on to which a window will open from the side of the room.

TYPES OF SMALL VILLAS
WESTERN AUSTRALIA.



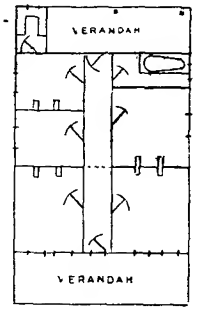
These methods provide gables running back into the main roof and breaking up long straight runs of eaves, thus affording a certain amount of variety and light and shade, while the sky-line is broken to a certain extent.

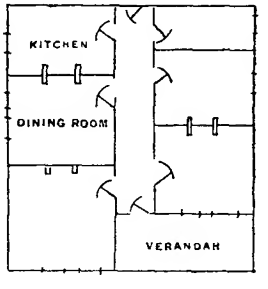
The neighbourhood of Perth is not rich in variety of building materials: red brick is the prevailing article. A few houses are built of jarrah weather boards, and a poor sort of sandy

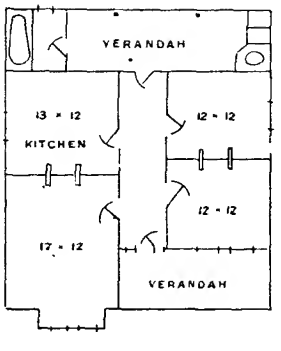
limestone is used. This sandy limestone is very porous, and is used for basement walls, or where they can be protected by verandas; it is of a pleasing cream colour, but soon collects the dust in exposed streets, and becomes very dingy. Cement stringcourses, bands, and ornaments are used for the purposes of decoration. A good deal is made of the chimney-tops, and a pleasing variety of ideas may be seen worked out in them. It is one of the few points left for the designer to fix upon.

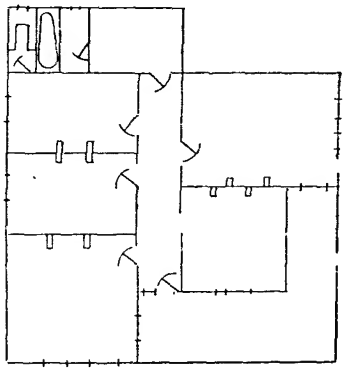
Houses of this type are of six or seven rooms. An attempt is made to get away from the double-fronted villa with a passage running down the centre. This is worked out sometimes, as the sketch plans show, by an entrance at the angle with a small internal hall, or by a side entrance and a short hall at right angles to the main passage. An objectionable feature of the planning of many of these entrances is that the front windows have to be passed by traversing the veranda to arrive at the entrance door. Owing to the acute nature of the servant difficulty and other economic considerations, one servant constitutes the staff in this class of house, the mistress participating in the household work. Consequently the dining-room will be found nearer the kitchen than the sitting-room. It often forms the projection on the side of the house, as mentioned above, additional size being thus gained. Kitchens are restricted in size and appointments, and the sink is often found there, as in American kitchens. The scullery and wash-house are often combined, adjoining the kitchen, or the scullery and pantry are cut off a strip of the house, or off the back veranda, or are again associated alongside a small bathroom. This important adjunct in a hot climate is generally of very restricted size, but nearly universal, though often relegated to a portion of the back veranda, so that the bather has to travel outside the house to arrive at it. The dining-room being fixed, if there are two front rooms, one will be allotted as the best bedroom, and rather objectionably placed opposite the drawing-room and next the front door. There will be one or two other bedrooms and a maid's room very often opening off the kitchen.

TYPES OF SMALL VILLAS IN WESTERN AUSTRALIA

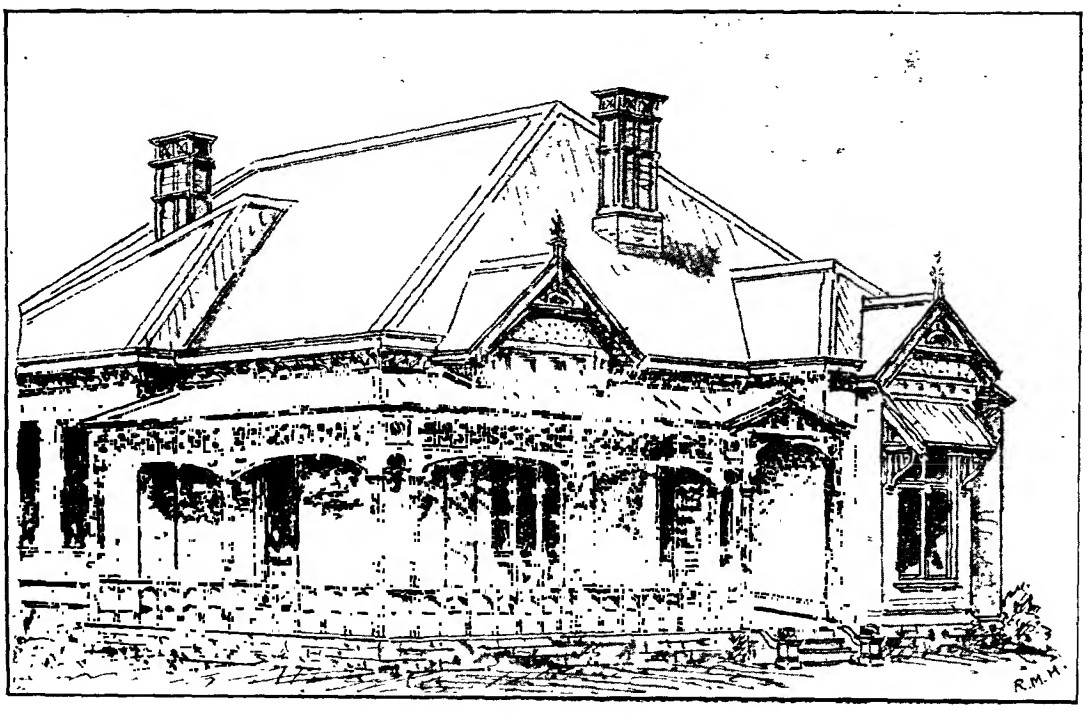


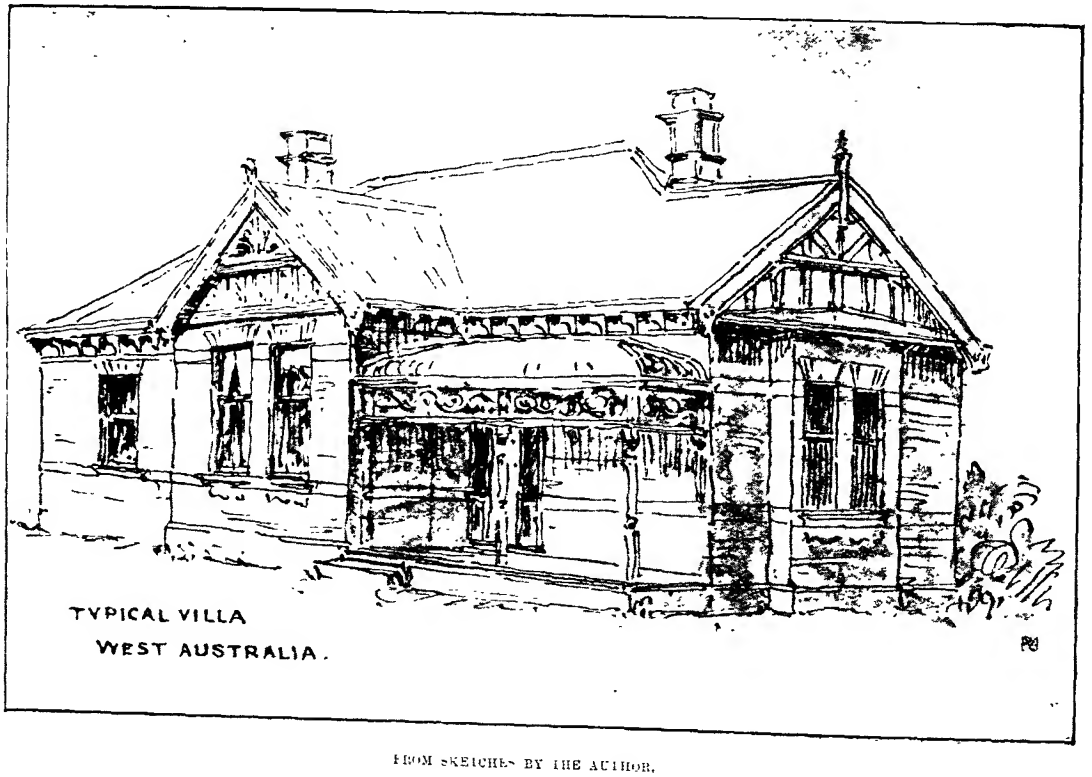






These small houses of rectangular plan leave very few corners for cupboards, storerooms, and pantries; consequently they are deficient as a rule in these important accessories; nor are built-in wardrobes usually to be found. Again, for the sake of economy, the cooking





FROM SKETCHES BY THE AUTHOR.

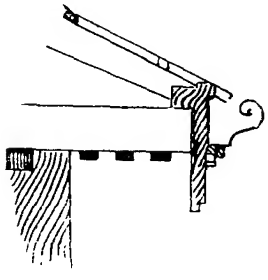
apparatus is limited, and few houses have a range, but only a simple baking oven, generally without a water-boiler attached. There is consequently no hot-water supply to the bath. In a good many cases a geyser apparatus, or something similar heated by gas or fuel, is installed in the bathroom. A hot supply to the bath is a noticeable deficiency to most of the better and larger houses as well as the smaller. Wood being the article of fuel may have an influence in this matter, but the type of oven in common use would have to be abandoned. It is the rarest thing to see a real kitchen range fitted in a dwelling.

As far as a consideration of this type of house goes, this may be said to exhaust the subject, and I will just notice a few points of construction. It has been already mentioned that the construction is very light and economical: in fact what was said in a Paper communicated to the Institute JOURNAL some time back on construction at Johannesburg, South Africa, would apply equally to West Australia, especially the Goldfields, such as Kalgoorlie.

The houses being narrow, no trussed roofs are required, only single rafters being used. They spring from the ends of the ceiling joists, and are tied in by this means at the foot; there is generally a light collar tie, and for the larger spans a purlin will be used strutted from the heads of partitions, so that all strains are direct downward ones. Floor timbers are light, with sleeper joists below; but you hardly ever walk over a stiff floor, as jarrah, the timber used, is naturally springy. This wood is used everywhere near the ground, including the floor boards, as the white ant will not, as a rule, touch it, except in the tropical parts of the country. For ceiling joists, rafters, and roof timbers generally, and for upper floors Oregon pine is used, and Baltic flooring.

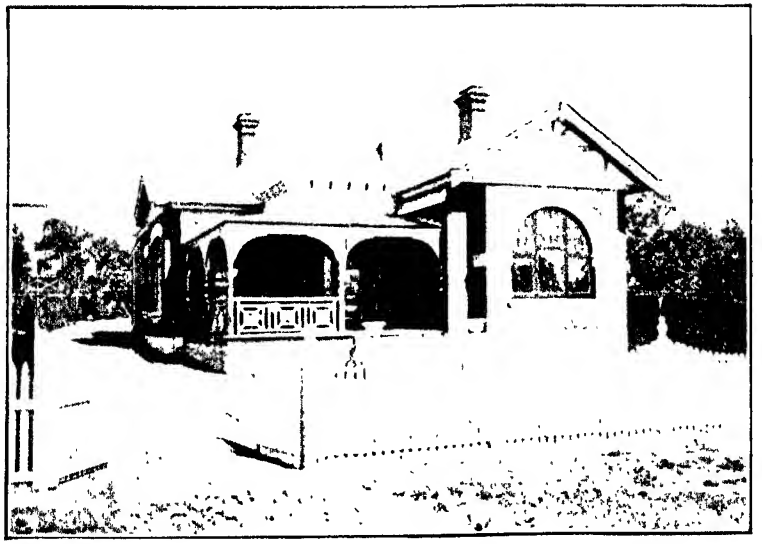
The lightest of plates and sleeper joists are used; 3 in. by 1 in. wall plates are common; half-brick partition walls are universal in these one-story villas, with a run of hoop-iron bored in them, but rarely built in cement. Two half-brick cavity walls bonded with bent fencing wire ties are commonly used. The eaves, gutters, and rain-water pipes are of the lightest galvanised iron. The former will hardly bear the weight of a person on a ladder leaning against them without bending.

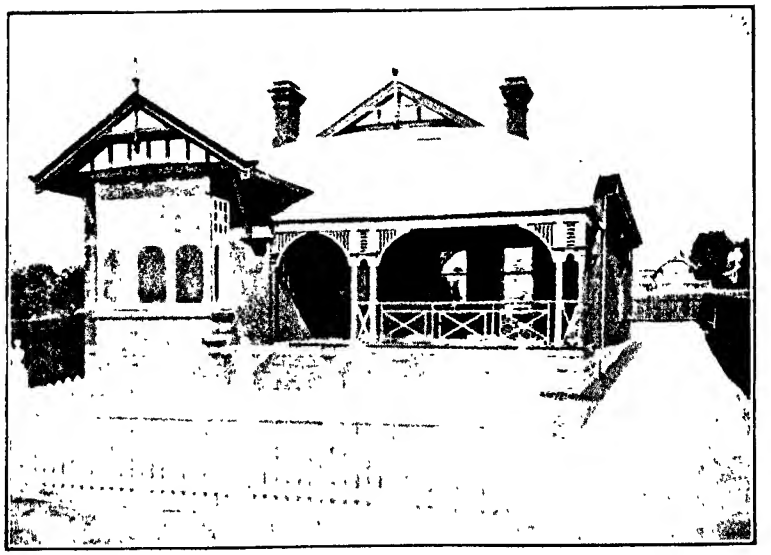
A line of shadow is obtained at the eaves by oversailing the ceiling joists a foot or eighteen inches, against the ends of which a fascia is fixed carrying the gutter on a scotia or ovolo fillet. Battens are fixed to the underside of the C joists to form a flat soffit and to aid in ventilating the roof of the house, but this arrangement principally allows the entry of hot air. In many instances, however, where roof ventilators are inserted these battened soffits are of service in promoting a current of air in the evening. Roofs are commonly ventilated by small louvred dormers, or by the ends of hipped roofs being finished with small louvred gables.

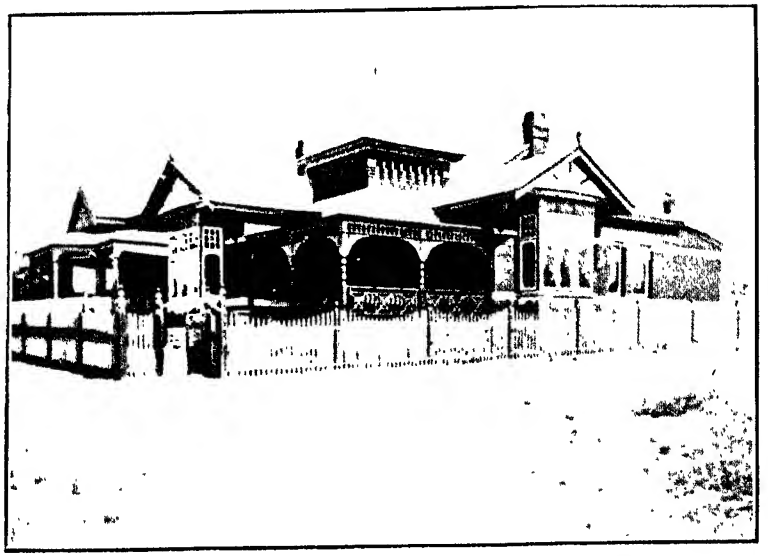


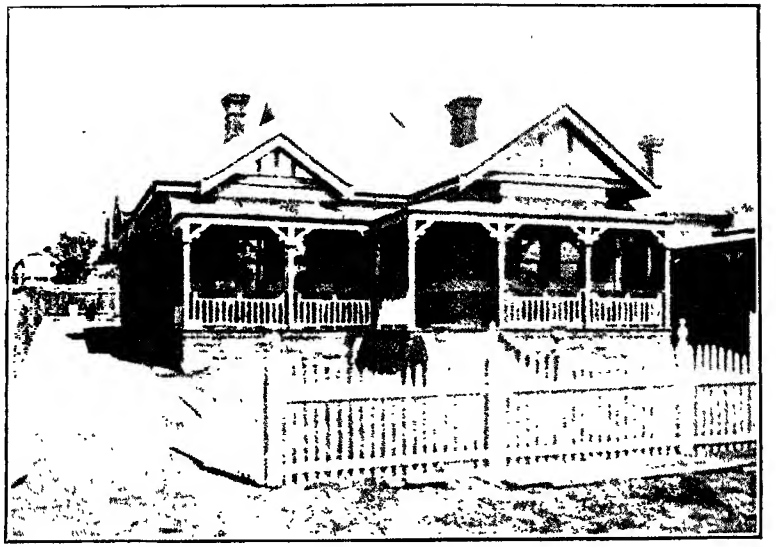
I have never seen the chimney-breasts of these houses used to carry up air flues from the rooms, though it would be most easy to do so. Vents are taken straight through the wall near the ceiling level into the open air, through which during winter gales a plentiful supply of fresh air enters, as there is no hit-or-miss arrangement to regulate the inflow.

The interior and exterior finish is just what might be concluded from the foregoing description. Architraves and skirtings are of stock patterns run by the mills, their profile being fairly tolerable. Doors are American or Scandinavian to a large extent. Plaster walls and ceilings are universal, are left a glaring white, and seldom finished later with wall papers. The plaster cornices for economic reasons are wanting, or luckily are small, and not coarse vulgar sprawlings; but vulgar centre flowers are common. Stamped metal ceilings, picked out in colours, are occasionally to be met with in good rooms, where the owner has a particular









TYPICAL VILLAS, WEST AUSTRALIA.

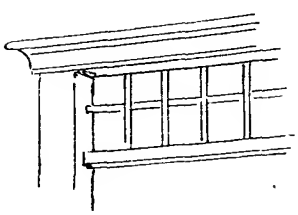
weakness that way. In the hall and passage an arch or two will be thrown across to break up the length or act as a screen. Bay windows are a common feature, but internally there is very seldom any noticeable treatment of them. They are generally treated with sash windows, and sometimes with casements.

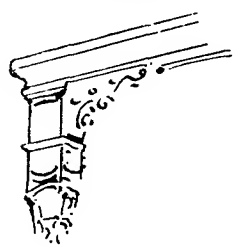
A local treatment of drawing-room windows, or in fact any windows giving on to verandas, has crept in, which may be usefully referred to. Long sash windows reaching to the floor are inserted. The lower part of the bottom sash is treated as a panel, there being no sill, but a threshold flush with the floor, while the veranda floor is kept about 4 or 6 inches lower. This lower sash slides right up into a space above the top sash, so that the bottom rail of the lower sash rises as high as the meeting rail of the top sash. This will give fair headway without the necessity of stooping much. Although this bottom sash is fairly heavy to lift, it has come more into use than the French casement; but for what reason I cannot say.

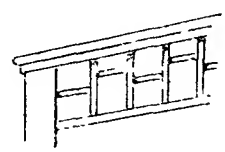
Wood being the fuel in use in West Australia, open fire-places are the rule; but there is seldom any attempt to beautify them. Occasionally enamelled tile treatment is met with, but the ordinary brick hearth in all its nakedness is the general rule.

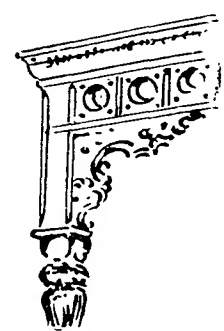
I have already touched incidentally on the external treatment. The houses are generally roofed in one span, the projecting breaks being carried up as gables with barge boards as finials and some filling-in. A favourite way is to fill in the gable with a sort of imitation of half-timber work; a light wood frame is run up on which laths are nailed. Over these a light panelled frame is clapped on, and then the laths are plastered and finished with roughcast or pebble-dashed. Frequently ornamental panels of pressed cement work are inserted. Bay windows, either with canted or square sides, are treated generally in the same way, being very rarely finished off with roofs of their own, even when they form a projection on a projection. The reason sometimes given for not roofing the bay separately is that the plumbing is deficient and the flashings are seldom water-tight.

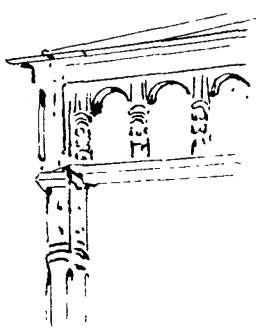
The eaves are often finished with a sort of panelled band by way of cornice, or with wood or cement brackets to give the idea of support to the projection of the eaves, which, as noted











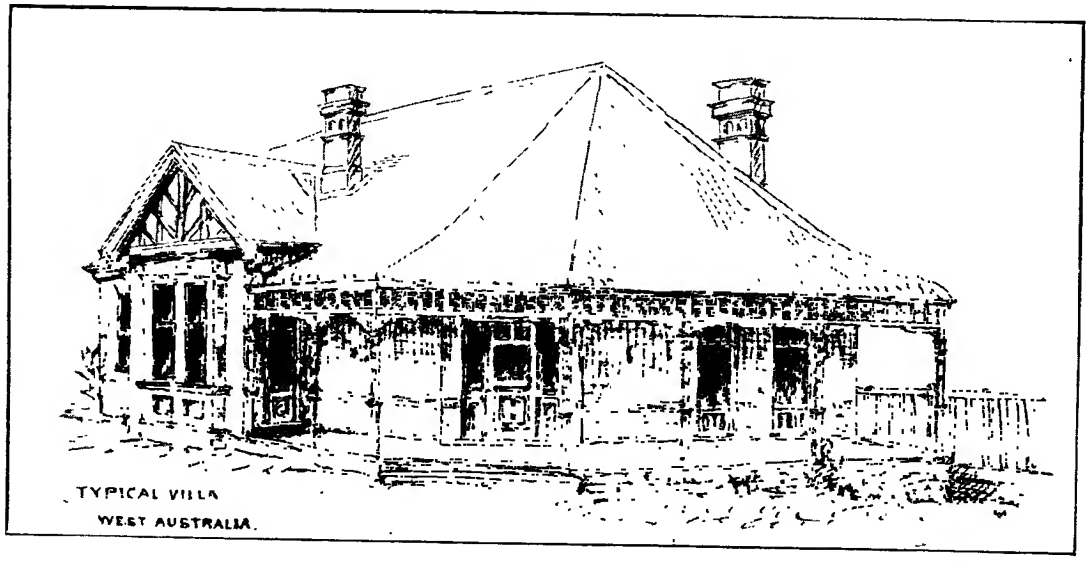
above, have nearly always a straight soffit finished with battens. The rafters themselves are rarely carried over to project and form sloping eaves.

As far as design and the limited possibilities of arrangement and composition are concerned, in the case of such small houses, one could not expect more to be done than is done. The elements at the disposal of the architect are of the simplest, and he has to make the best use of the few to his hand. Restraint is forced on him, and quietness is the prevailing note. Perhaps this is something to be thankful for. Verandas give the designer some scope for his pencil, and many neat ones may be seen. Turned posts are commonly

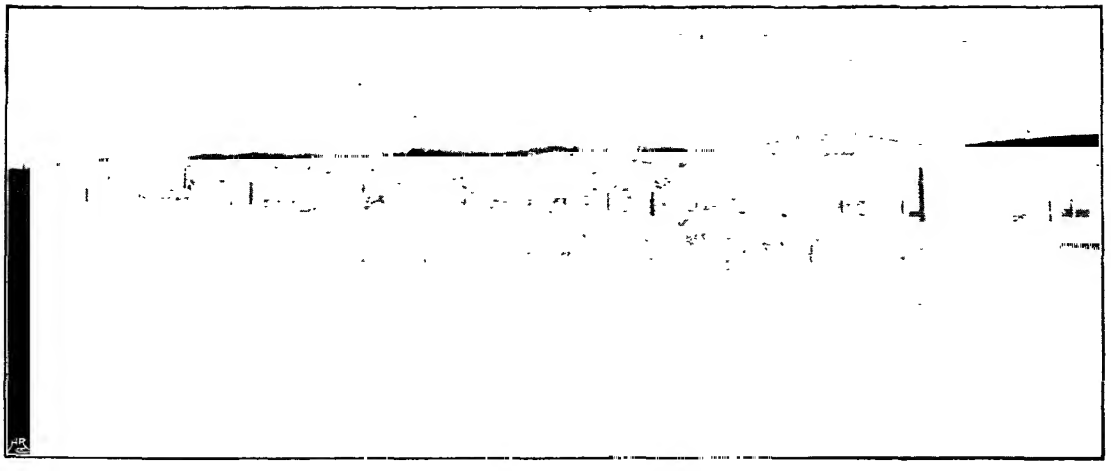
used, but square or shaped ones are not uncommon. They are brought low down to give plenty of shade, and a kind of frieze of ornamental filling is added below the eaves-gutter to obtain this shelter. It may be filled in with square open panels or spindle work, or by pierced and cut panels or fret sawn work.

There is one feature which is not generally dealt with so harmlessly—viz. the front entrance. It is here the little bit of expenditure is displayed in the shape of leaded lights in the door itself, the fan light, and the side lights. The door is often as much leaded light as wood, the lower panel only being solid. The choice of colours and combinations are as a rule overdone, garish, and harsh, though I am pleased to say there are signs of improvement in this direction, and quieter colours and fewer of them are being used; but the speculating builder is the principal sinner in this respect.

To conclude, the chimney-tops are often happily treated, though the common classic cap does much duty with various modifications. The mouldings are all run in cement.



TYPICAL VILLA
WEST AUSTRALIA.



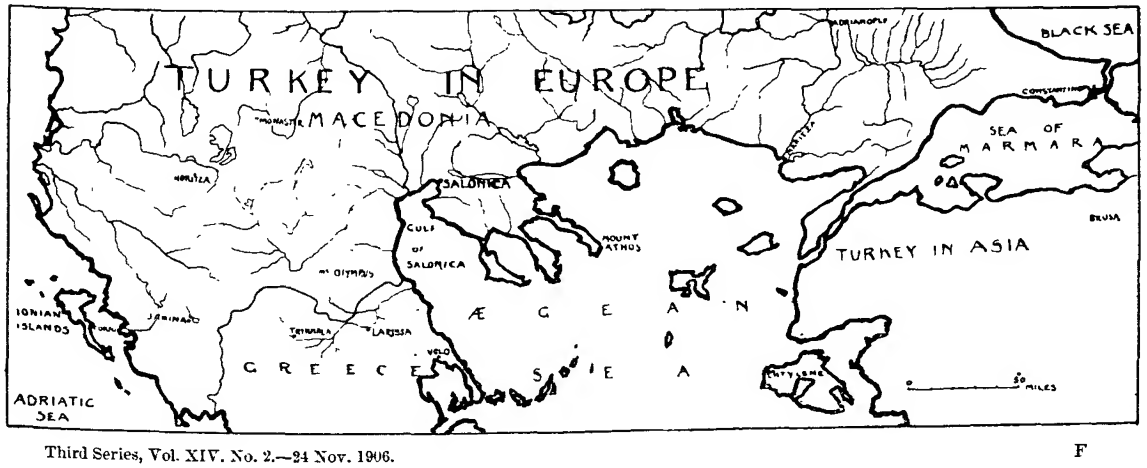
View of Salonica from the Bay. From a Photo. by the Writer.

SALONICA: THE ANCIENT THESSALONICA.

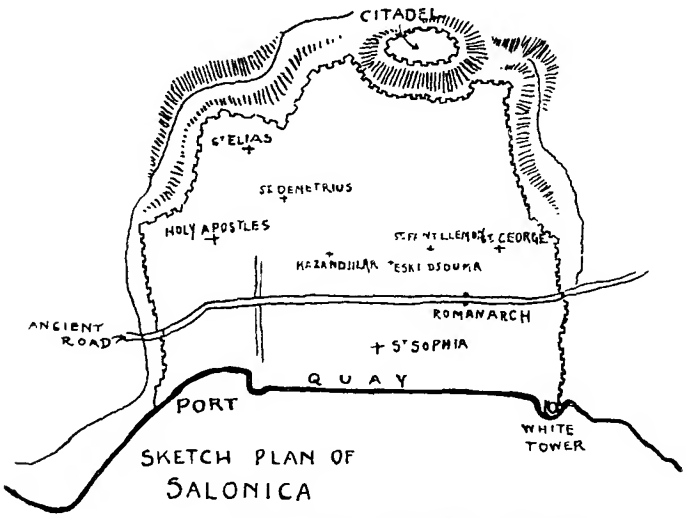
By Charles Gourlay, B.Sc. [A.],
Professor of Architecture, Glasgow and West of Scotland Technical College.

THE modern town of Salonica is next in importance to Constantinople, in European Turkey. It was first known in history as Therma, from hot springs which were there; but about the end of the fourth century B.C. Cassander changed its name to Thessalonica, after the name and in honour of his wife, who was a sister of Alexander the Great. He also made it a more important place by bringing to it the inhabitants of neighbouring towns.

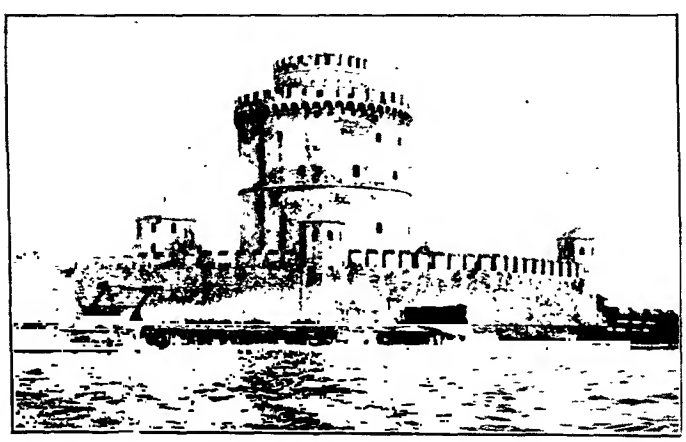
From the time of St. Paul's visit till the foundation of Constantinople, Thessalonica was the capital of the whole Empire between the Adriatic and the Black Sea, and it has continued to be the capital of Macedonia till the present time. The city has many historical associations, but for the present purpose these need not be dwelt upon, other than to say that its rulers have varied from time to time, being Greek, Persian, Macedonian, Roman, Saracenic, Turkish, and



Venetian in turn, until finally it fell under the dominion of the Turks in 1430, which Power has continued to hold it until the present day. Although it has been so long under the Turkish power, yet the largest proportion of its inhabitants are Jews, many of whom are descended from fugitives who came from Spain about the end of the fifteenth century, while others came from countries bordering on the Black Sea, and a few claim their descent from the ancient Jewish inhabitants. These Jews, by their variously draped and highly coloured garments, add greatly to the picturesqueness of the many narrow streets and bazaars of the city.



The site of the town is such that its prosperity was guaranteed from its very beginning. Its position on a branch of the ancient Roman road called the Via Egnatia, led to its becoming an important emporium of commerce. Situated as it is at the head of the Gulf of Salonica, it forms an excellent harbour, and still holds no mean place among the ports of the East. Viewed from the bay, the situation of the city is delightful. On the shore there is a broad busy quay, which is quite modern, and owes its existence to the energy of Mr. Blunt, a former British Consul-General. The site slopes gradually upwards from the sea-level, while the numerous minarets and cypress groves rising from among the closely packed dwellings give it quite an Eastern aspect. The ancient whitewashed walls bound the city, and mark it out to the view as a frame does a picture, while the citadel with its seven towers crowns the whole. The Greeks rarely selected a site for one of their cities unless there was near at hand a hill which might become an acropolis or citadel. Therefore the very site of the city shows its Greek origin.



WHITE TOWER, SALONICA, FROM THE SEA.

The massive city walls are five miles in circumference, with bastions at intervals, and are of Byzantine date, but the lower part contains many fragments of ancient Greek and Roman temples and public buildings, the upper part being mediæval. Salonica thus gives, even in its walls, evidence of the antiquity of the city, and of the varied nationalities of its rulers.

In general views of the town, no object stands out more distinctly than the tower, built by Sultan Soleiman about the middle of the sixteenth century, which is at the east end of the

ROMAN TRIUMPHAL ARCH AT SALONICA. VIEW BEFORE RESTORATION.

quay and forms part of the city walls. This tower is one of the most picturesque objects to be seen anywhere, and is named the White Tower because all its masonry is whitewashed. The main tower is circular in plan, and excepting a thin string-course about half-way up its height and a few small arched windows there is nothing to give it architectural character till the top is reached, where there is a battlement supported on a corbelled-out arcade. Within the outer, an inner tower rises to a greater height, and is finished with slightly corbelled-out battlements. At the seaward corners of the courtyard there are octagonal bartizan turrets which do not project externally beyond the line of the walls. Within the courtyard there is a square building of purely Turkish type, which is octagonal in its upper stories, and groups very picturesquely with the great White Tower.

Near the eastern extremity of the branch of the old Roman road, now the chief street of the city, there is a Roman triumphal arch still remaining. It is variously named (*e.g.* Arch of Galerius, of Alexander the Great, &c.), but whoever may have been the cause of its erection, it is evident from the sculpture on the piers that it depicts the sieges, battles, and triumphs of a Roman emperor. It was formerly triple, and is built of brick. The two piers which remain retain their sculptured marble facing, showing the treatment to have been astylar. There are four ranges of sculpture, nearly equal in height, divided by carved bands of garlands or rosettes, and at the top the cornice is decorated with acanthus leaves. All this detail is purely Roman. The guilloche enrichment crowning the cornice, which indicates Greek influence, is too small to be in scale with the rest of the carving.

The lowest range of sculpture is of separate figures placed in a series of niches,

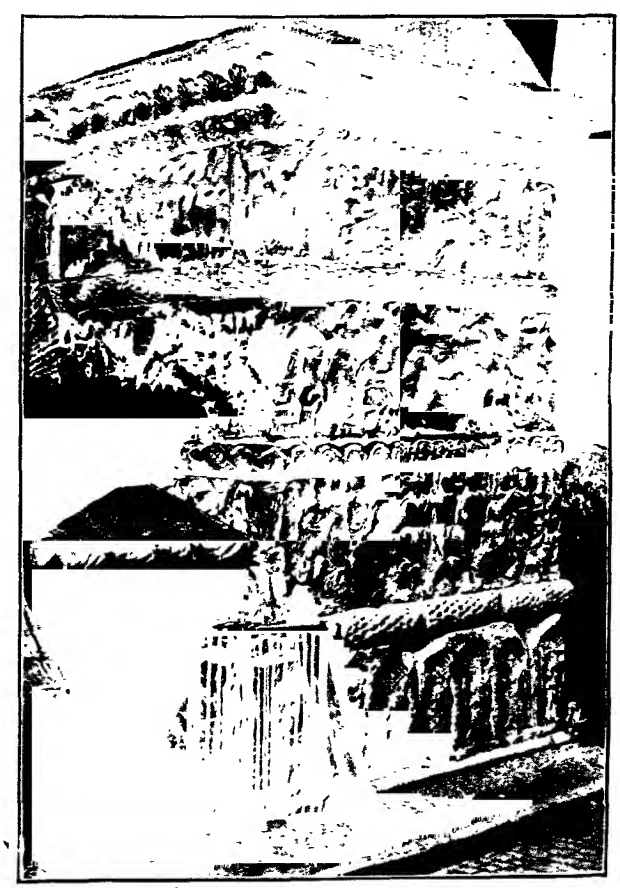


Photo. Zepdji, Salonica.

ROMAN TRIUMPHAL ARCH AT SALONICA. SCULPTURED PIER.

in each of which the shell ornament is rudely carved. In each of the upper ranges the figure sculpture is continuous, but in the top row the corners are specially treated so as to give an appearance of strength to the angle. The brick arch has been restored, and in the process it has been completely covered with a coating of plaster, which, although it preserves the structure, depreciates it from an architectural point of view.

Thessalonica was soon a stronghold of the Early Christian Church, as is evidenced by the visit of St. Paul and by his two Epistles to the Church there. When the Turks became masters of the city they did not destroy but only slightly disfigured the churches in converting them into use as mosques. The disfigurement that then took place was much less than that suffered by similar buildings elsewhere, as, for example, at Constantinople. Hence the preservation to the present day of a series of remarkably complete buildings in which the Early Christian and pure Byzantine styles of ecclesiastical architecture can be fully studied. In the early churches of St. George, Eski Djouma, and St. Demetrius, there may be traced the influence of both these styles.

CLASSIFICATION OF CHURCHES.

The churches in Salonica may be classified as follows:

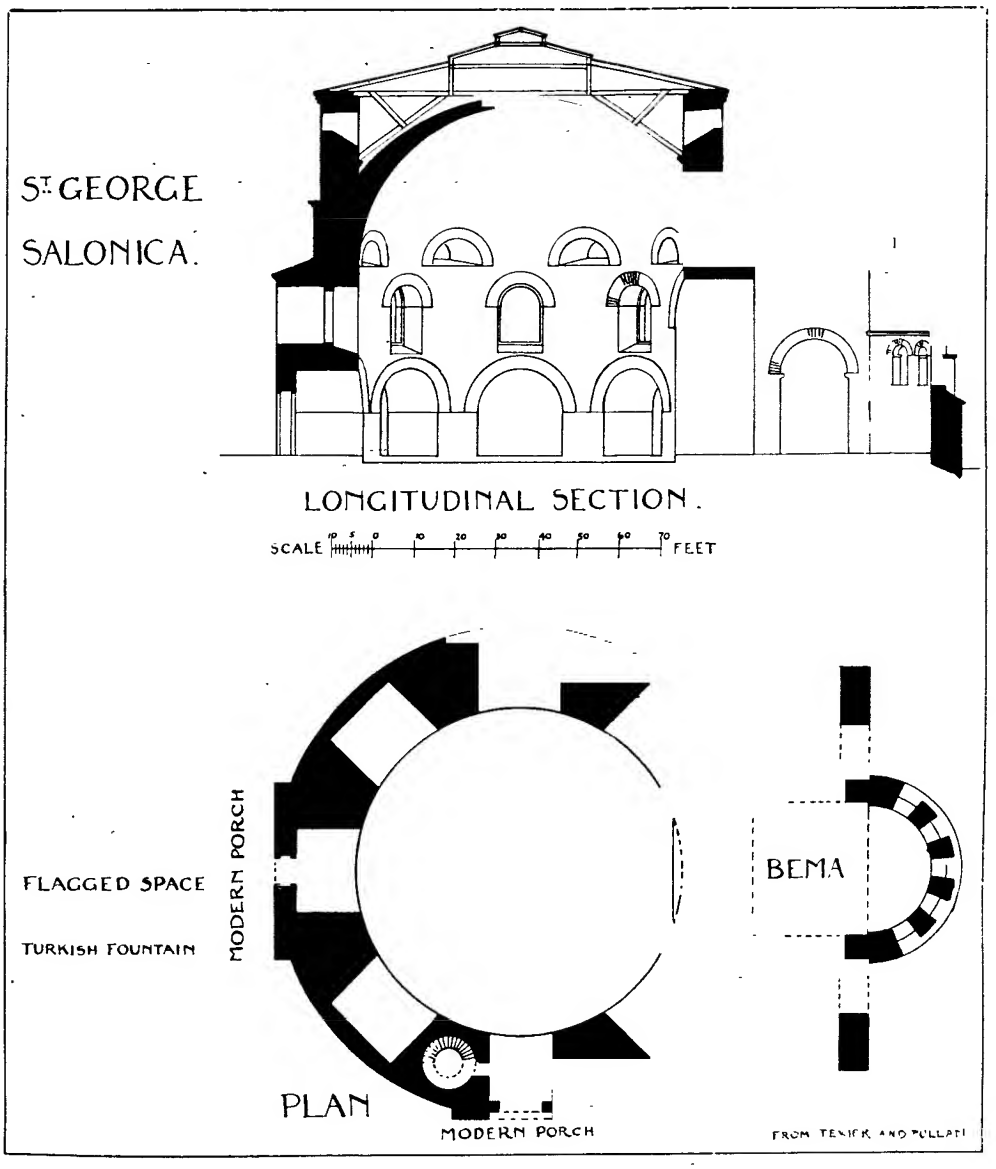
1. The round church of St. George.
2. The basilican churches of Eski Djouma and St. Demetrius.
3. The church of St. Sophia.
4. The later churches: St. Elias (1012), Kazandjilar or St. Bardias (1028), Holy Apostles (eleventh century), and St. Pantelemon.

I.—THE CHURCH OF ST. GEORGE.

The church of St. George stands alone among the churches of Salonica as regards its plan, which consists of a domed circular nave, fully 79 feet in diameter, having a bema and apse projecting from it. There is a western door opposite the bema, and a southern one midway between. At the side of the latter, in the thickness of the wall, there is a staircase which leads to the roof. It is interesting to note that the southern door is wider and evidently more important than the western door. In front of both doors there is a modern Turkish porch. The nave has walls 19 feet in thickness, and, besides the openings already mentioned, has five recesses 17 feet deep and 20 feet 3 inches wide, which are rectangular in plan and barrel-vaulted. The problem as to what purpose these served has not yet been solved. It appears to the writer that they were formed by the Early Christians to receive the sarcophagi of important personages connected with the Church. In support of this suggestion the following passages with reference to Early Christian tombs at Salonica are quoted from Texier and Pullan: "The nature of the soil did not admit of grottos or subterranean chambers cut in the rock. The only tombs that exist are the marble sarcophagi ornamented with sculpture and inscriptions that are to be found scattered about in the courtyards of houses and near the public fountains." And further: "When the inhabitants embraced Christianity they did not abandon their ancient customs; the corporations charged with the care of tombs were dissolved, and the Church took charge of them, but the custom of burying in marble sarcophagi continued, and this was the only method of burial used by the Christians, from the highest to the lowest."

Directly above the doors and recesses there are large semicircular-headed windows which light the interior. Just above these windows the dome springs, and at this point there were eight semicircular lunettes placed midway between the windows, and which, being at a higher

level, must have given an excellent light for the efficient lighting of the very beautiful mosaic with which the whole interior of the dome is covered. This mosaic has recently been restored, and when this was done these lunettes were filled up solid and covered with mosaic, so that their existence cannot now be detected internally.



Thus, the mosaic vault is not now so well lit as it should be, and was intended to be, by the architect of the building; further, the existence of these lunettes proves that the internal surface of the dome was to be treated in colour, which required more light than could be obtained from the windows, though these give sufficient light at the floor level. These lunette openings do not show to any appreciable extent externally, for the filled-up parts have been whitewashed along with the whole of the exterior.

A characteristic of Byzantine architecture is that the dome is a true roof, but in the Early Christian style the dome was covered with a wooden roof and did not show externally. The latter is the case with the dome of St. George. This, along with the wall recesses, indicates the probability that the architect was acquainted with the Early Christian domed buildings in Italy, *e.g.* Santa Constanza, Rome, *circa* 330 A.D., where both of these features are found. This may also be considered as evidence of the early date of this church.

The dome is hemispherical and of brick, as is the whole building. Compared with the dome of the Pantheon, its thickness is not so great in proportion to its diameter. It is thinnest at the apex and gradually increases towards the haunches. The internal height from the floor to the underside of the crown is fully 85 feet. The walls of the upper part of the nave are set back from the exterior, to about 11 feet thick just at the springing of the dome, and to 10 feet above the string-course which encircles the exterior of the rotunda at varying levels.

Photo Zepaga, Salonica

CHURCH OF ST. GEORGE, SALONICA: EXTERIOR FROM THE EAST.

A vertical mass of wall is carried round the building above the springing of the vault, which by its weight tends to counteract the thrust of the dome. At the top it supports the wooden exterior roof, which is covered with tiles. There are semicircular-headed openings in this vertical wall in order to give light to the space between the extrados of the vault and the wooden roof.

Directly opposite the western door is the opening 26 feet wide for the bema, which is 65 feet 3 inches deep internally. The walls of the bema are 10 feet thick, which thickness is in harmony with that of the upper wall of the rotunda.

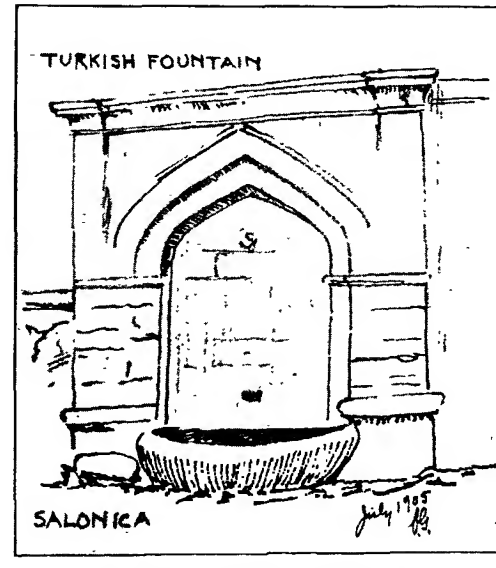
Another way in which this church shows its early date is by the omission of vestries, but on either side of the bema there is an arched recess 6 feet deep by 16 feet long, and it is probable these were used in some way or other for this purpose.

The apse has five semicircular windows, the sills of which are fully 16 feet above the floor line. Here again we have an instance of Early Christian influence, for this apse is circular in plan both internally and externally like the Roman apses, while the pure Byzantine apse was circular internally and polygonal externally. The vault of the apse is much thinner than that of the bema, and the thickness of the apse wall is lessened, first at the sill and again at the springing of the semicircular arched head of the windows, carrying out the same principle as in the wall of the rotunda. There is a flying-buttress on each side of the outer end of the bema and at right angles with its walls, evidently built to withstand the thrust of the vaulting of the bema and the apse. The exterior of the church is striking, and expresses in a simple, straightforward manner the internal arrangements. The brick arches over the heads of the openings are seen, but not prominently, owing to the thickness of the coating of whitewash.

The offset in the thick wall is covered with tiles, and higher up the wall is the horizontal

string-course already referred to. The cornice is of stone and the tiles of the roof project slightly beyond it without an eaves gutter. The roofs of the bema and apse have the tiles laid upon the vaulting direct.

With reference to the date of the church, Texier and Pullan say: "Although there is no documentary evidence to prove the date of its erection, there are Christian emblems impressed upon the brick of which it is constructed, showing, without possibility of doubt, that it was erected by Christian builders." This fact, along with the omission of vestries (already referred to), tends to confirm the correctness of the date commonly given to the church, of about 400 A.D.



TURKISH FOUNTAIN NEAR ST. GEORGE'S CHURCH.

The site at the present day is an open one, with a cemetery to the east, and a courtyard, bounded by a wall, to the south and west. In front of the western entrance there are a flagged space and a Turkish fountain. Probably this marks the site of the atrium. That an atrium existed is rendered more probable by the existence of the basin of the ancient fountain of ablution, now in use as the basin of a Turkish fountain at the southernmost corner of the site.

There was no architectural ordinance in relief in the interior of the church, for there were no columns or cornices, but instead the mosaic-work had an especially architectural treatment. This may now be seen only in the mosaics of the dome, for all below its springing is whitewashed, except the barrel vaults of the five recesses, which are either decorated with, or plastered and painted to represent, mosaic.

The inner surface of the dome is divided into eight parts, each of which is directly over a recess below. The treatment of the mosaic is varied in each compartment, though it has an architectonic similarity throughout. The ground of the mosaic is gold and the architecture as well, but this latter is outlined with colour and has coloured ornaments upon it. In one compartment there is a two-story mansion with centre and side-wings treated in a distinctly Roman manner, bearing some

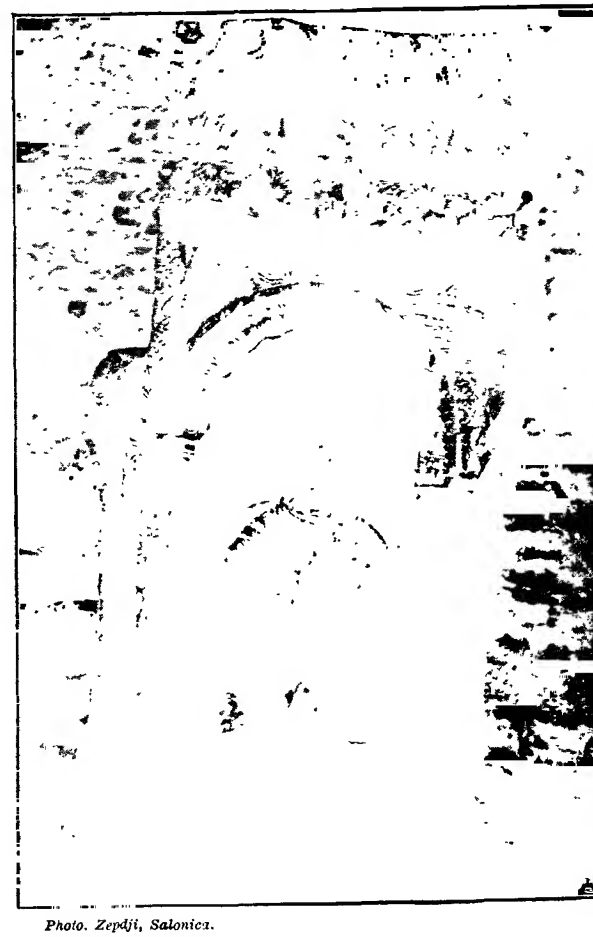
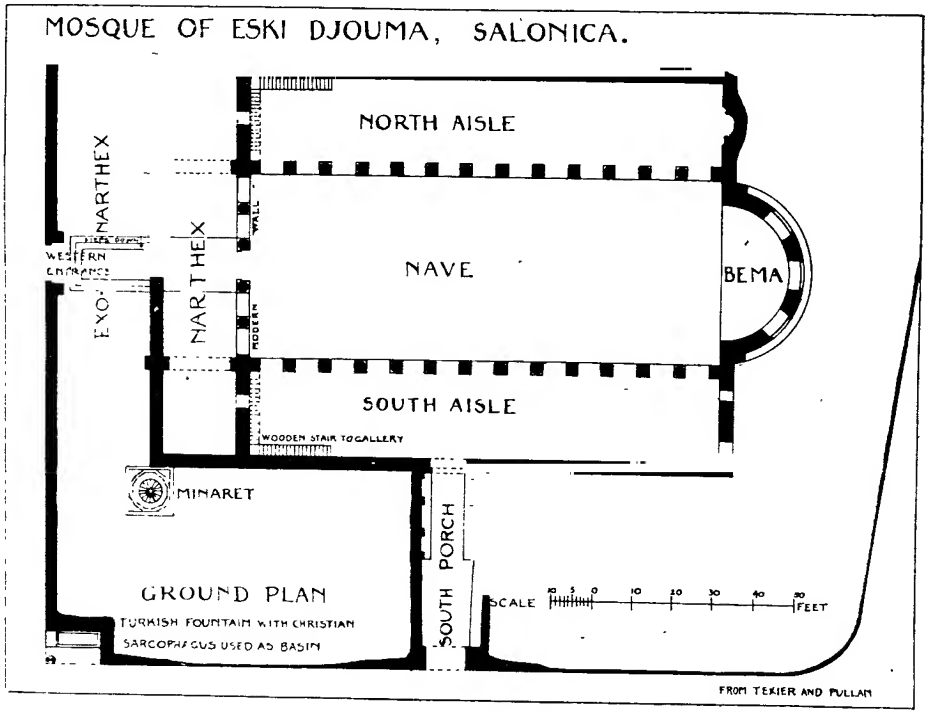


Photo. Zepdji, Salonica.

AMBO FROM THE CHURCH OF ST. GEORGE, SALONICA.

resemblance to the rock-cut tombs of Petra, which are of Roman date. In each compartment there is a special feature in the centre, which appears covered over and is richly adorned. A bird in Early Christian art represented the soul, and here there are peacocks and other birds. This great work is the greatest and best in the Byzantine mosaic that has come down to the present time. Just as the elders referred to in the Revelation are represented on arches of triumph, so this mosaic may represent heaven, the abode of the souls of Christians, and the figures in an attitude of adoration the inhabitants thereof. The work is exceedingly fine and remarkably perfect. Each cube is about one-fifth of an inch square, which is much smaller than those met with in Italy, as, *e.g.*, at St. Mark's and San Vitale. This smallness of cube is a feature of the Byzantine mosaic in Constantinople and



Salonica, and it gives a much more refined result than the larger cubes used throughout Italy.

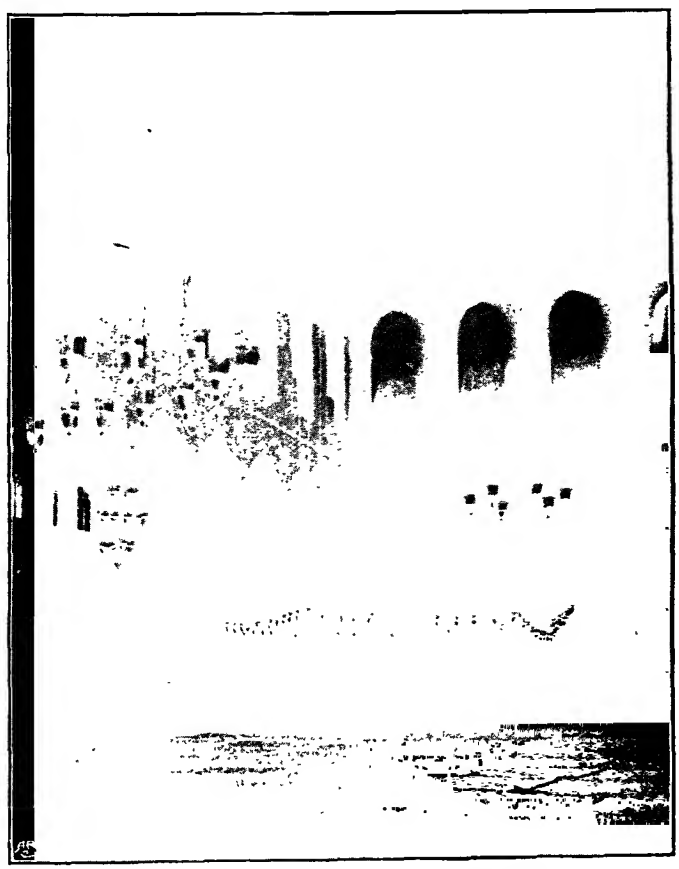
The enrichments of the vaults of the five recesses are entirely Roman in their character. The surfaces are geometrically divided into squares, octagons, or circles, in each of which there is a representation of a bird or fruit. In some cases the surface is simply plastered and painted, probably to represent the true mosaic, which may be hidden by the plaster, as is very probably the case also with the decoration of the bema and apse, which at present cannot be seen owing to the whitewash.

In the courtyard of this church there formerly existed a part of an ambo, another part of which was found in the courtyard of the church of St. Pantelemon. These are now in the Imperial Museum in Constantinople, and from these remnants it is evident that it must have been a magnificent ambo, and suited to a great church such as this one of St. George. Its ornamentation suits the style of the mosaic in St. George's. In fact, not to speak of the general resemblances as regards style, there is the same shell ornament and the

same use of curtains in both the mosaic and the ambo, indicating the probability that it belongs to this church. Each part is of a quadrant shape in plan, with niches in front and on the curve. The junction of the upper part of the side with that of the front has been imperfectly designed. In the front bas-relief shown in the illustration (p. 35), the Virgin is represented seated and holding the Child in a priestly manner, while the other niches have as subjects the Wise Men of the East.

II.—THE BASILICAN CHURCHES.

Of churches of the basilican type Salonica possesses two, both of them admirable specimens of the Early Christian style. The earlier, dating probably from the beginning of the fifth century, is called the Mosque of Eski Djouma (*i.e.* Old Assembly), Djouma being the Turkish name for Friday; and by the Greeks it is called Agia Paraskevi, *i.e.* Holy Friday. It is also called the church of Great St. Mary. In plan it is three-aisled, with inner and outer narthexes and an apse, while, as at St. George's, there are western and southern entrances. The exo-narthex is about 23 feet 9 inches wide, and has a wooden lean-to roof; the inner narthex extends in length the full width of the church by about 18 feet 6 inches wide, and it also is covered with a wooden lean-to roof. This narthex opens directly into the nave, being separated from it by an arcade of five bays, now, however, built up, although the Turks have painted pillars and arches on the enclosing wall, which indicate the real arcades in the solid wall. There is also a door from the narthex into each aisle.



ESKI DJOUMA, SALONICA: INTERIOR LOOKING WEST.
From a Photograph by the Writer.

The nave is 119 feet long by 48 feet wide, and terminates in a semicircular apse, which forms the bema. The opening in the eastern wall for the apse is covered by an arch which has a window in each spandril. The aisles, which are 22 feet wide and run the whole length of the church, terminate squarely without chapels at the eastern wall, and are separated from the nave by beautiful arcades, each consisting of twelve monolithic columns at 9 feet centres, with plain classic bases of Attic type, and composite capitals having dosserets which are carved on the side facing the nave only. The practical value of the dosseret is well seen here, for its purpose is to carry the weight of the thick wall brought by the arch upon the capital. The arches are round; but it is interesting to notice how, by plaster and paint, the Turks have given their peculiar pointed form to them. Above each aisle there is a capacious

gallery which has a wooden floor and is reached by a wooden stair situated at the western end of the aisle.

Directly above the nave arcade there is the gallery arcade, consisting at the present time of massive piers and Turkish pointed arches, which is not the Early Christian arcade, for it had Ionic columns with dosserets and round arches.

There are framed wooden roofs over both the nave and aisles. Unfortunately the Turks have altered this church more than any other in Salonica. They have given the roof of the nave a lined and moulded curved ceiling, at a level so low that it cuts into the small eastern windows in the spandrils of the arch over the entrance to the apse. What between covering up so much with plaster and painting in their own style, the internal effect is not now very

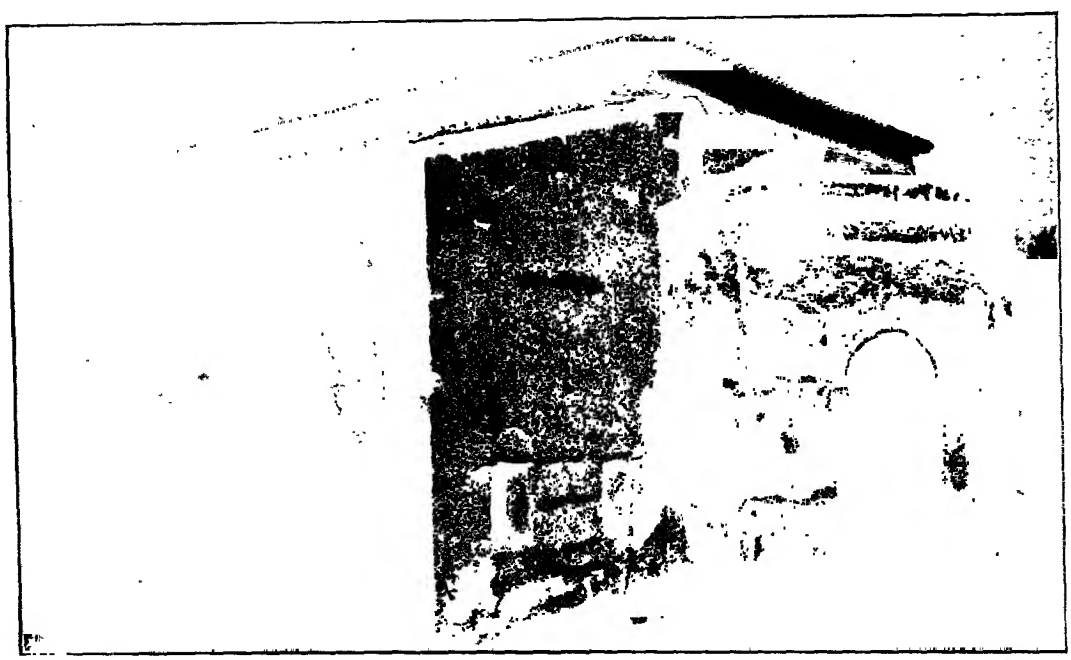


Photo. Zerpdji, Salonica.

MOSQUE OF ESKI DJOUMA : EXTERIOR FROM THE EAST.

pleasing, and this is the more to be regretted because the church is beautifully proportioned in all its parts, and a fine specimen of the three-aisled Early Christian basilica.

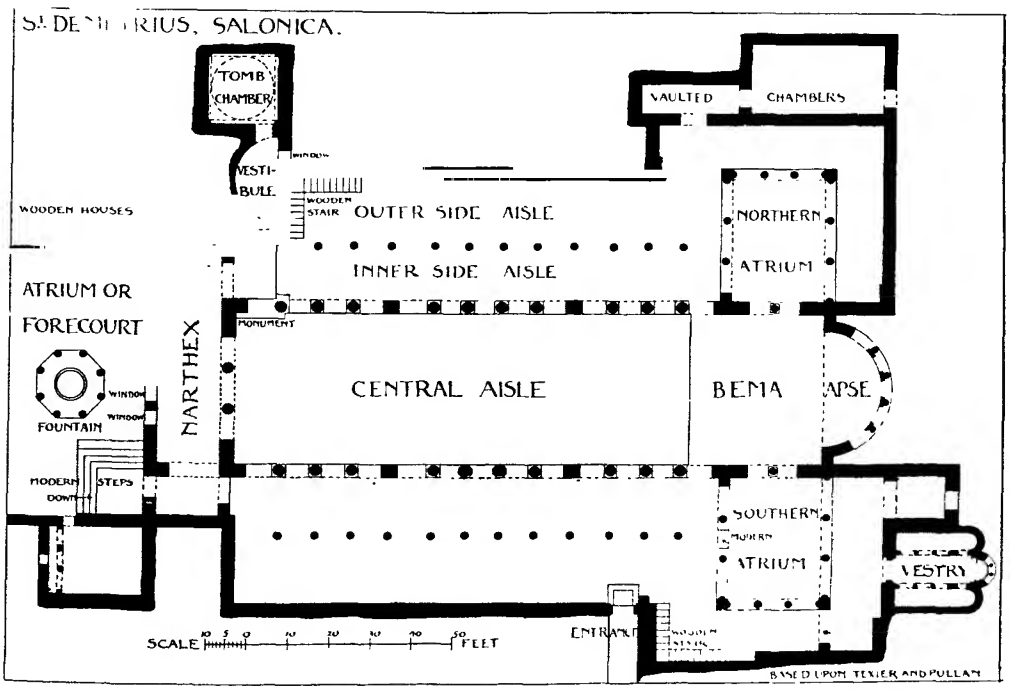
The apse is semicircular, 34 feet wide, and has a spacious effect. It is lighted by three large semicircular windows. At the east end of the north aisle there is a semicircular-headed niche, ornamented with short Ionic columns, which held the sacred vessels. It is now built up. The south porch is of considerable length, and very interesting on account of its stone vaulting.

Externally this church has little of special value, its chief point of interest being its massive appearance, which gives expression to its capacious internal arrangements. The entire building is of brick, and the Early Christian arcading of the gallery still shows, although the windows have been blocked up and new ones of Turkish type inserted. The window in the spandril of the arch over the entrance to the apse is seen in our illustration, and above this the roof has a hipped end. The roofs of nave and aisles are covered entirely with tiles, and have projecting eaves and verges. Externally the apse is semicircular, not

polygonal, and is thinned at the sill of the windows and at the springing of the arches. The cornice is of brick corbelling and typical of the style.

St. Demetrius.—There is, next, the basilican church of St. Demetrius, which is one of the finest and best preserved of Early Christian buildings. Although damaged by fire on more than one occasion, particularly in the latter part of the seventh century, the influence of the style of the sixth century permeates the building which now exists, so that it should be classed as an example of early sixth-century work. Hence it may safely be dated fron 500 to 520 A.D.

The plan consists of central nave with double aisles on each side, making a five-aisled church. The apse is at the east end, and on each side of it there is an internal atrium or transept, which atria are supposed to have been for the use of the clergy. The one to the



north was used for the shrine of St. Demetrius, which was of silver and of great beauty. The galleries cover all the aisles, and extend from the western wall to the atria. There is an external atrium to the west of the church which formerly gave access to the principal entrance, although it is not the case at the present time, as the main entrance leads into the south aisle next to the transept. It is worthy of remark that these three early churches—St. George, Eski Djouma, and St. Demetrius—have all important entrances to the south as well as western entrances.

Taking into consideration the dimensions of this church, the external atrium and narthex are small in proportion to its size, compared with those attached to other churches of this period. The fountain of ablution still stands in the external atrium in a dilapidated condition, but its basin of beautifully carved marble has been thrust out of its place, and now lies unprotected close at hand. In this fountain we have a fine specimen of Early Byzantine work. It is circular and about 15 feet in diameter, and has eight columns with capitals of

varied design, some being Ionic. Resting upon these are the plain brick arches, circle on circle, now all plastered and whitewashed, bound at the springings with bars of wood and iron. The brick cornice consists of three courses. The lowest, a simple projection; the next, a dog-tooth course; and the upper one projecting a little further; while, above all, the tiles of the roof project and form eaves. The interior has a brick domical vault and is tied with wooden beams.

Instead of the usual important entrance doors from the atrium to the church, there is in this instance only an unimportant door at the south-west corner. The small narthex has

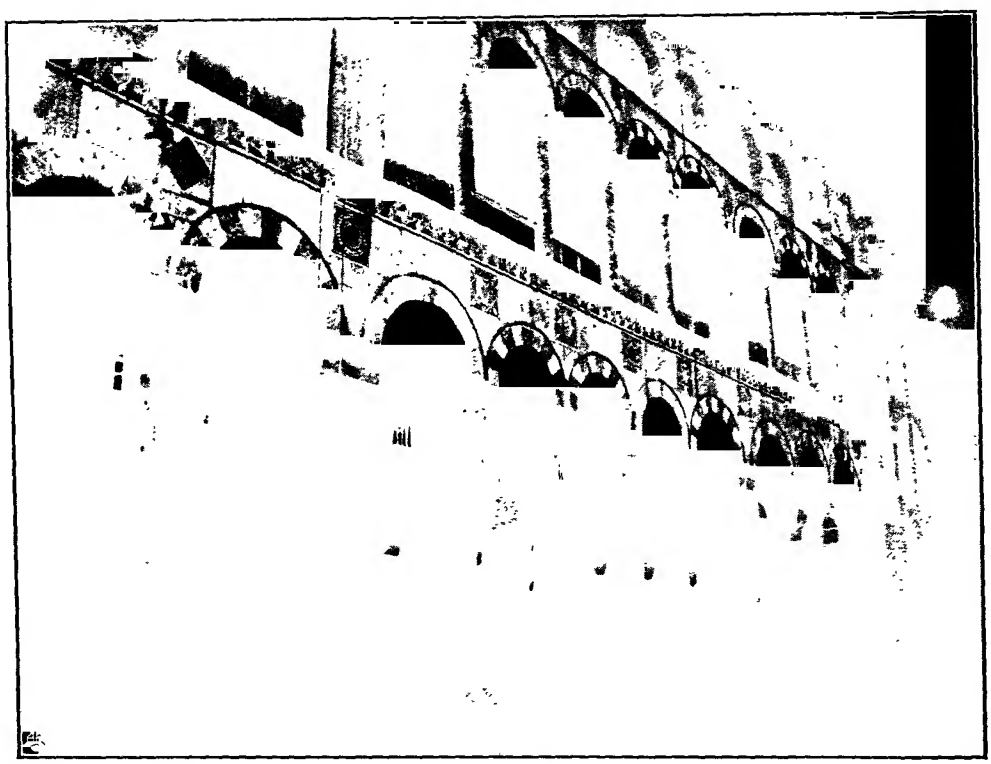


Photo Zerdji Salonica.

INTERIOR OF CHURCH OF ST. DEMETRIUS, SALONICA.

doors to the aisles and an arcade to the nave, consisting of two verde antique columns between piers. It has a wooden ceiling which forms a floor to the gallery.

The door from the narthex to the north aisle leads immediately to the left to a semi-circular domed chamber fully 20 feet in diameter, which acts as a vestibule to the square chamber containing the tomb of St. Demetrius. The semi-dome of the vestibule shows irregular pentagonal forms filled in with brick, all, however, brought to one surface. High up in the eastern wall of the chamber there is a small aperture of the nature of a window, now built up.

The tomb chamber is nearly 17 feet square, and is domed with brick on pendentives. In the east wall there is a blocked-up doorway, directly in front of which lies a flat marble slab having a large Byzantine cross upon it and border round it, which are hardly distinguishable, however, owing to the quantity of candle grease which has been dropped on the slab by Greek worshippers at the tomb. The tomb chamber and its vestibule are both

perfectly dark, and owing to the steep slope of the hill on which the church is built, probably partly underground; hence the tomb chamber is often called a crypt.

In front of the entrance to the tomb of St. Demetrius at the western end of the north arcading of the nave, taking the place of one bay, there is a very beautiful Early Italian Renaissance mural monument dating from 1481, in memory of a Greek named Loukas Spandouni. The carving is alto-relievo and well executed.

The length of the nave and bema exclusive of the apse is about 145½ feet, and the width is 37 feet. Both here and at the Eski Djouma, the floor of the nave is about 4 inches lower than that of the aisles. In the length of the nave there are three compartments caused by massive piers taking the place of pillars in the arcade. The same arrangement exists in the triforium. The central part has four verde antique columns, and the east and west portions three only, of other marble. The moulded bases of the columns are mainly of the Attic type; some have low square plinths and others high ones, according to the length of the shafts of the columns, which evidently were taken from other buildings. But the two central ones of the south side have octagonal pedestals and the other two in the central compartment have square pedestals, with moulded caps and bases.

The capitals are all different, and though of various types—such as the melon, the composite, and the wind-blown acanthus—they are in general Corinthian, and are exquisite specimens of Byzantine design and carving. Above every capital there is a dosseret with the cross or labarum carved on its centre. It is worthy of note that in this church all the dosserets are of the same size, and the different heights of the shafts are equalised by varying the heights of the plinths of the bases, as already referred to. The columns with their caps and bases are of marble. The piers and arches of the nave arcades are of brick covered with marble, and the design of the upper part of this marble coating is very remarkable, being of "pietra dura" work. It represents a complete cornice by a species of inlay formed of different coloured marbles, white, red and black, with a few projecting mouldings at the top. Here the effect of modillions, dentils, and the bead-and-reel enrichment is imitated on a flat surface, and while the work is of great interest as a technical feat it cannot be said to indicate a high level of art or to be worthy of being called beautiful from the point of view of design. But between this so-called cornice and the dosseret the treatment of the marble lining is admirable. The archivolts have marble of two tints, representing voussoirs, and for hoodmould there is the Venetian dentil so common in Byzantine work. In the spandrils there are squares and lozenges with circles or other forms inscribed, the effect of which is very beautiful.

The columns of the triforium are also of marble and have shallow Ionic caps, mostly incomplete, being only in the roughed-out stage. The dosseret is very large and thick with the cross carved on the face. Above, till the clerestory string is reached, the brick arches are treated similarly to the nave arcading, with simple marble surface treatment without pietra dura inlay. Between the pillars there is a marble parapet with the labarum in circular or lozenge-shaped panels, having a moulded cope on top. At the clerestory there are piers and arches symmetrically placed with regard to the treatment underneath, but there is no marble facing, all is whitewashed only. The nave has a framed open timber roof.

The wooden gallery floor over the inner aisles is at the level of the triforium string, that over the outer aisles is at a much lower level, being at about the springing of the nave arcade arches. The columns of the aisles are half as high as those of the nave, and there are upper columns bearing arches which support the inner gallery floor and the gallery roofs.

The bema extends eastward in direct continuation of the nave. Probably the iconostasis stood between the two broad piers which form the termination to the western walls of the atria. A little to the west of this the floor of the bema is raised one step higher than that of

the nave. Separating the bema from the atria on each side at the ground floor level there are two arches with a column between. These atria extend in height to the clerestory, and probably above the ground floor arcading they were quite open to the bema, for the present pointed arches filling the space are Turkish. The clerestory of the bema consists of an arcade of four small semicircular-headed lights on each side. The floors of the atria are on a level with that of the bema, and higher than the rest of the church.

The apse is semicircular both internally and externally, and is lighted by five large windows, at the sill of which a shallow moulding runs round its interior. The semi-dome is vaulted and the roof tiling is laid upon it direct. As the interior of the apse is all covered with whitewash no decoration is visible. In each spandril of the arch at the opening of the apse there is the window, which is so common in churches of this type.

Photo. Zepdji, Salonica.

PART OF MONASTERY OF ST. DEMETRIUS, SALONICA.

Externally the apse has a thick lower wall which at the sill of the windows is thinned, and the offset is tiled. The windows are separated by piers with engaged columns of Corinthian type having deep dosserets with the cross carved on them. The semicircular-arched heads to the windows are circle on circle. The wall above the windows is high, and at the eaves there is the usual Byzantine brick cornice, similar to that already described for the fountain of ablution. The whole church is built of brick, with round arches employed throughout, its pavement being of white marble. From the east aisle of the south atrium access is obtained to the skeuophylakion or sacristy, for keeping the sacred vessels. Probably this is a later addition, as such a room is indispensable to a later Byzantine church, but its non-existence is a mark of earlier date. It is about 20 by 18 feet internally, and is divided into nave and aisles having an apse at the east end of each, with a three-light window in the central apse.

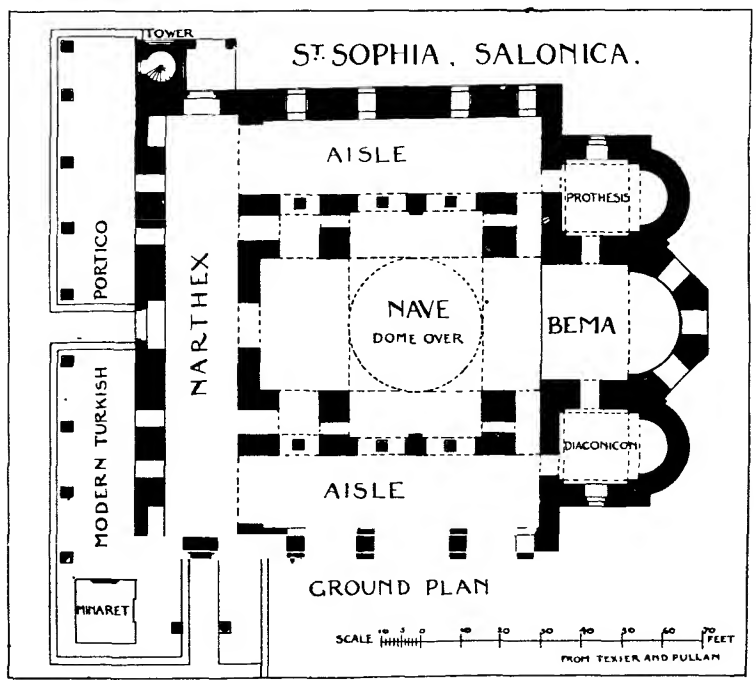
There was a monastery attached to St. Demetrius, and it is hard to say how much of this may remain, for modern houses encroach upon the sacred building, but one beautiful piece of very early carving is to be seen in a small open space opposite the south doorway. It is an arch cut out of a single stone 6 feet in length. Its archivolt is richly carved in late Roman style, and shows Byzantine influence by the foliage and birds in its central band and the peacock in each spandril.

In character St. Demetrius is a very noble basilica. Externally it cannot be properly seen, but viewed internally, to the east or west, it is a great church with its parts in excellent

proportion and its detail beautifully executed. Altogether it expresses its purpose with no lack of emphasis, and it takes rank as one of the greatest buildings of the Early Christian period.

III. — ST. SOPHIA.

Of the purely Byzantine churches still remaining in Salonica undoubtedly St. Sophia is the oldest, but its exact date is unknown, though it is probably of the sixth century. In plan the central part is a Greek cross with arms of unequal length, and a dome of about 33½ feet in diameter at the crossing. At the four corners there are large piers which are not solid, but through which arched openings pass both on the ground floor and gallery levels. These combine with the dome to make a rectangular area of about 80 feet by 65 feet externally. On the north and south sides of this rectangle there are aisles, and to the west is the narthex, equal in length to the breadth of the building. The aisles and narthex are fully 18 feet wide. The north and south aisles are barrel-vaulted in brick, with the courses inclined at an angle to the vertical and not horizontally bonded. But the narthex is divided into five bays, the northernmost and central having round shallow domes; the southern one, a groined vault; and the other two, low oval domes. The bema is barrel-vaulted, having a width of nearly 30 feet, and it projects eastward about 22 feet, being terminated by a semicircular apse of about 25 feet in diameter, which is lighted by three large semicircular-headed windows. To the right and left of the bema are situated the diaconicon or vestry, and the prothesis or chapel of the credence, both with semicircular apses. These vestries are thought to be additions of a later date than the original structure, for, according to Dr. Freshfield, triple apses are found only in churches erected after about 565 A.D. In plan these vestries are nearly square, and are vaulted with shallow domes. They are each entered by a door direct from the bema and by another from the aisle.



The four arms of the cross are of equal width and are barrel-vaulted. The dome, around which the whole composition is grouped, springs from pendentives, is nearly circular in plan, and has a low drum. Its peculiarity is that the drum is square externally, and there are in consequence heavy masses of masonry at the corners which by their weight counteract the thrusting tendency of the dome. This square part has a bold effect externally, and it is pierced by twelve semicircular-headed windows which light the dome. The dome itself is segmental in section vertically, and shows its true form externally from the crown till

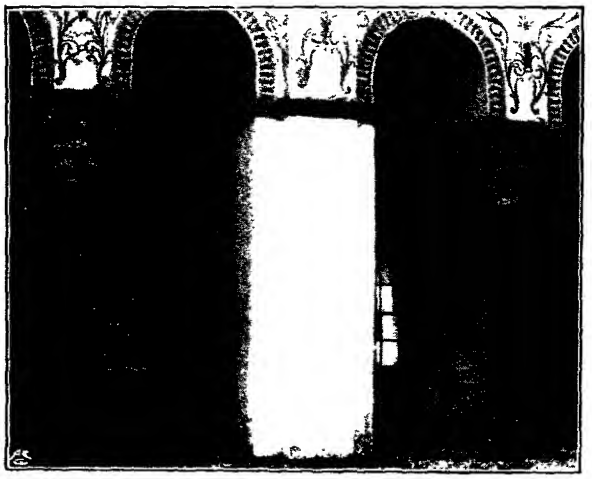
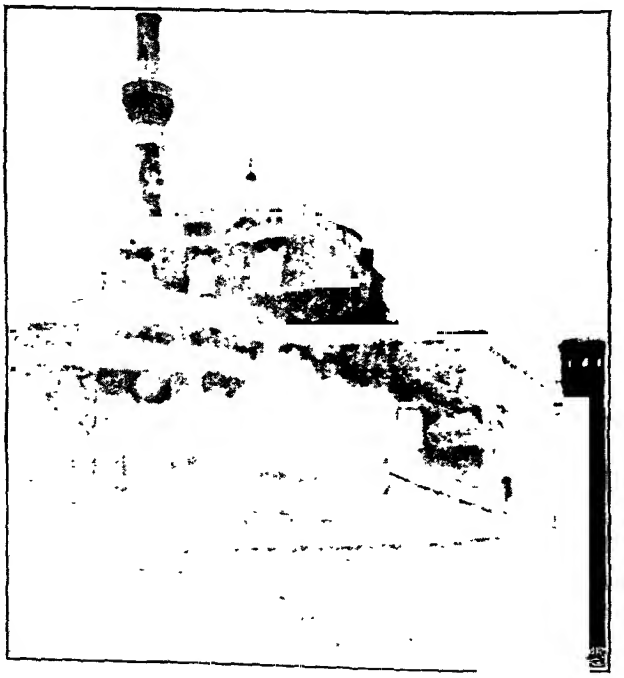


Photo. Zepdji, Salonica

ST. SOPHIA, SALONICA: DETAIL OF INTERIOR.

the haunches are reached, when its thickness is considerably increased, forming a podium or basement which is brought vertically down to the square part forming the exterior of the drum. At the four corners there are two stone arched buttresses which spring from the angles and reach to the top of the podium, thereby assisting to give stability to the dome at its haunches. The body of the church is separated from the north and south aisles at the end of the north and south arms of the cross by a central pier and arcades of two openings on each side of it. The capitals here are beautiful examples of the wind-blown acanthus type, while the dosseret above them is very thin, and resembles a thick abacus. The moulded bases to these columns are very high. At the time this church was erected bells were not used to summon the people to the services. Wooden planks called *semantra* were struck, thereby giving out a sufficiently loud sound for this purpose. At the north-west corner of this church there still remains the tower in which these semantra were sounded. It is square at its base, but octagonal above its first story, and at the top has semicircular openings on each face. Its total height is about 55 feet. The staircase in this tower leads to the gallery of the church which extends over its two aisles and the narthex. The gallery has a wooden roof covered with lead and is not vaulted. The church is built of stone and brick, the arches being of the latter; and externally at the eaves there are rich brick cornices of the usual Byzantine type. The central apse is of purely Byzantine form, being polygonal externally though circular internally, but the smaller apses are circular both internally and externally. There is a modern Turkish portico in front, extending the full width of the church, which has eight columns of white and verde antique marbles with purely Turkish capitals and arches.

The whole inner surface of the dome is covered with a beautiful mosaic on a gold ground, representing the Ascension. The figures in the lower part of the composition have trees separating them from one another, while the surface on which they stand is broken up in a peculiar manner, and is supposed to represent stony ground. This mosaic is considered to be of later date than the



VIEW OF ST. SOPHIA FROM THE NORTH-EAST.
From a Photograph by the Writer.

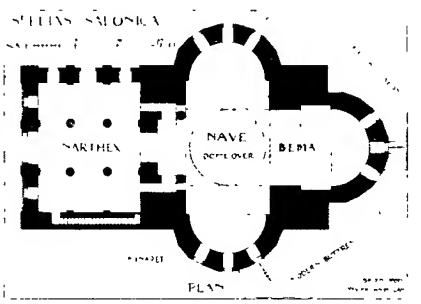
building itself, and is probably as late as the eleventh century. The mosaic in the semi-dome of the apse represents the Virgin seated and holding the Child Jesus.

The ambo belonging to this church has recently been conveyed to the Imperial Museum, Constantinople. It was formed out of one block of beautiful verde antique marble, but before being taken to Constantinople it was sawn into two at the junction of the stair with the ambo proper. It is a well designed and very interesting piece of early Byzantine church furniture.

In a devastating fire which occurred in this part of the city in 1891, this church, which was then used as a mosque, suffered so severely that it cannot now be occupied, and is gradually becoming more ruinous. Unless something is done to protect it from the elements, this priceless building with its carving and mosaics will in time become a thing of the past.

IV.—THE LATER CHURCHES.

Of the churches of the Neo-Byzantine style in Salonica three still remain which all belong to the eleventh century, and, though small, are worthy of detailed notice on account of their difference in plan and general treatment. The first of these to be referred to is St. Elias (the Seraili Djamisi), which dates from 1012. As a rule Greek churches dedicated to this saint are situated on the top of a hill, and this one at Salonica is no exception, for it is at the top of a steep hill in the higher reaches of the city.



The plan is that of a cross: its three arms to the north, east, and south have apsidal terminations, which are semicircular internally and polygonal externally, while the fourth to the west has an exceptionally large rectangular narthex, from which a narrow stair in its south wall leads to a gallery of fully one-third its size, overlooking the bema. A striking feature of the plan is the four great masses of masonry at the angles of the crossing. The whole church, including dome, gallery, and apses, is vaulted, while the four arms of the cross are barrel-vaulted and the roofing tiles are laid direct upon the vaults without an intermediate wooden roof. The dome is at the crossing, and about 18 feet in diameter. It is set upon pendentives, has a very high drum, and though circular internally is of duodecagonal form externally.

In each of its twelve sides there are narrow, tall, semicircular-headed windows, which are now nearly all built up, having only occasional slits for the passage of light. Externally each angle of the drum has a large round shaft running its whole height, and terminating in a projecting coved course at the eaves, above which the roof tiling projects. The dome stands on a square platform, from the four angles of which an arched buttress springs, and supports the drum at about half-way up its height. Against the sides of this platform the tiled roofs of the four arms of the cross abut.

The narthex is to the west, and about 30 by 25 feet internally. It is divided into three aisles by four circular columns having Ionic capitals with dosserets, which support its vaulted roof. The main entrance is directly in the centre of the front, and there is a minor entrance at the north side. On each side of both these doorways there is a window. The staircase to the gallery is steep and so narrow that one person could not pass another. Indeed, in many of these churches the imperfect nature of the provision for access to the galleries is remarkable. The Byzantines do not appear to have desired to give architectural expression externally to

their staircases, but to have hid these within the thickness of walls, or provided only wooden stairs internally. There is a large central and two narrow side arched openings leading from the narthex into the church, directly within which are two circular columns having Corinthian capitals and bases which stand quite clear of the walls. The space between the columns is covered by a large barrel vault, while between the columns and the walls are smaller ones.

At the present day there are no vestries at the east end of this church, but it is probable that small ones formerly existed in what are now huge masses of masonry on either side of the bema. There is a recess about 15 inches deep on each side of the bema, and extending for half its length next the apse: this recess is carried the full height of the walls and round the barrel vault as well. No surface decoration is to be seen in the interior, because all is thickly coated with white-wash. Although many of the windows of this church are blocked up, yet the light which enters is sufficient to illuminate the interior satisfactorily, owing to reflection from the white walls.

ST. ELIAS, SALONICA: EAST APSE AND DOME.
From a Photograph by the Writer.

The external form of the apses is that of half of a twenty-sided polygon. Probably each has had three ranges of recesses or windows, but at the present time they are largely blocked up, some of them by the huge sloping buttresses which have been added by the Turks to support the whole eastern end of the church from the centre of the north apse to that of the south. The uppermost range consists of a semicircular headed recess, having two orders of brick arches on seven of the sides of the apse.

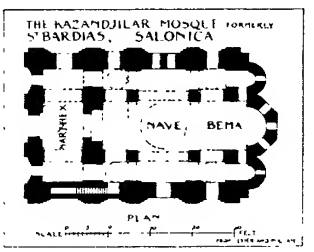
The brick eaves cornice of this building is a particularly rich one, consisting as it does of slightly projecting corbelling, which extends to a considerable height near the top of the wall, while above this are two rows of bricks laid in the dog-tooth manner with intermediate courses which project slightly. Above all, the roof tiling projects, and there is no gutter.

This church is mainly built of brick, all the openings being arched, yet some parts of the walling consist of stone and brick combined in true Byzantine fashion.

The ruined mosque of Kazandjilar, formerly a Christian church dedicated to the Holy Trinity and also to St. Bardias, dates from 1028. It is a typical example of the Greek cross plan of the Greek church, and shows how in small buildings of that period the central dome

is supported by four marble columns. The narthex is barrel-vaulted, 9 feet wide, and in length is equal to the full width of the church. Directly above the narthex is the gallery, formerly used by the women, which has a dome with a high drum at its northern end. The entrance door is central and has moulded marble jambs and lintel, with tympanum above. There is a window on either side of the door and at each end of the narthex. Three openings lead from the narthex to the church, the central one being larger than those at the sides. The rectangular space forming the body of the church is divided by the four columns which support the dome into the form of a Greek cross, leaving the four angles which are covered by low domes. The south transept has a door to the exterior with moulded marble jambs and lintel. The four columns have beautifully enriched Byzantine capitals of convex outline now thickly coated with whitewash. Upon these rest stilted semicircular arches having a small span to the walls and a larger span to the four arms of the cross, which are barrel-vaulted. The central dome is supported on pendentives and is circular internally. Eastward is the bema with its semicircular apse. Lastly, there are the two side chapels, which are barrel-vaulted and have apses semicircular in plan both internally and externally.

This church is, architecturally, more interesting externally than internally. Even in its ruinous state it shows in its front elevation the eaves following the curve of the internal vaulted roof over the gallery of the narthex. Byzantine architecture is sometimes irregular in the disposition of its domes, as is evidenced in this case by the dome over the narthex not being placed over the centre, but, as already mentioned, at its northern extremity. The semicircular-headed openings in the drum of this dome have hoodmould and eaves in one, the curves of which, being carried up the tiled roof, give the exterior that lobed form so characteristic of this style. The dome at the crossing is octagonal in plan externally, having a column at each angle, from which springs a plain arch on each face, and within which, in a concentric arched recess, there are two ranges of semicircular-headed windows having arches in two orders. The roof of this dome is straight-lined externally, and covered with tiling which is laid direct upon the vaulting and finishes at the eaves with a rich brick cornice. At the level of the sill of the lower range of windows, the dome is brought to the square by means of triangular projections at its four angles, which are covered with tiles. Against this square portion the roofs of the arms of the cross abut in elevation.



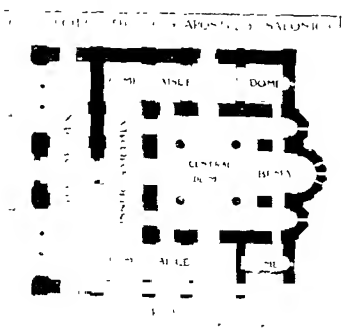
The architectural treatment of the elevation of the north transept may still be seen to consist of its doubly recessed large arch, which is subdivided into two semicircular-headed windows with a brick pillar between, while above these, in the spandril, there is a semicircular headed window, all of which are now filled up with brick. The rich sloping cornice of the skew is returned horizontally for a short distance in front and also on the return, while the upper surface of the skew is covered with tiling. The entire north elevation expresses plainly in its form the internal arrangements of the church. The roofs of the central and side apses are all covered with tiling and the apses finish at the eaves with brick cornices; only the central apse is polygonal externally. The church is built entirely of brick, and its dimensions, excluding the apses, are about 53½ feet by 37 externally.

The church of the Holy Apostles, now the mosque of Saouk sou Djami, which is believed to belong to the eleventh century, is of great interest both internally and externally. The plan of the outer narthex, which is about 10 feet wide, is nearly unique. In the centre there is a square-headed doorway, and on each side of it an arcade of three arches, while at each end there is a doorway; the only other narthex having a somewhat similar arrangement is

that of St. Theodore Tyrone, Constantinople. One centrally placed doorway admits from the outer to the inner narthex, which is about 9 feet 6 inches wide, and from each end of which there branches an aisle to the eastwards. These aisles may have been used for the accommodation of the women, there being no gallery for them in this church. The inner narthex with its aisles, which have openings into the nave, makes this plan bear a close resemblance to that of St. Sophia, Salonica.

The inner narthex with the aisles which project from it and the outer narthex are vaulted either with the barrel or groined type of vault, while at the ends of the inner narthex and its aisles there are domes placed on pendentives. The nave takes the form of a Greek cross in plan by the position of the four columns, which support the central dome as in the Kazandjilar mosque. The capitals of these columns are of the Corinthian type without dosserets, and the columns appear slender for the work they have to do, but it must be remembered that they are composed of marble which can bear considerable compression.

Eastwards there is the square bema with its side chapels, all having apses of semicircular form internally. The whole interior is so thickly coated with whitewash that no ornamentation is to be seen. The exterior of the east end of this church is still remarkably perfect, and is one of the most beautiful examples of Byzantine brickwork extant. The three apses are polygonal externally, and their treatment is a highly picturesque one. The bricks are laid in true Byzantine fashion with mortar joints as thick as the bricks themselves. After building the piers and arches in a plain and simple manner, the builders appear to have rejoiced in varying the patterns of the brickwork in a most artistic manner. Here also there is found in the main wall of the church that combination of large stones with two or three layers of bricks, both in the horizontal and vertical joints of the masonry, which is a prominent characteristic of Byzantine work.



This church is probably the finest Byzantine example now remaining of that grouping of four small domes round a central one which became characteristic of Russian Greek churches. Here, however, it is seen in its pristine form, without those bulbous additions which the Russians applied to their domes, and which took away from them the simple dignity attached to this, the noblest of all architectural forms of roof. Besides the grouping, the individual domes are of great interest. The tall drums of the smaller ones, which are octagonal in plan, are entirely of brick and have brick columns at the angles. The doubly recessed opening on each face is semicircular-headed and has for hoodmould a rich cornice which forms the eaves course of the tiled roof. The surface of the roof is therefore not circular, but lobed in form.

The central dome has a tall ten-sided drum and is similar in design to the others. It is brought out to the square at the base of the drum by tiled projections which terminate in an eaves cornice of the usual type. Against this square portion the roofs of the transepts and central aisle abut.

The ends of the transepts are treated in an admirable manner and show clearly how the Byzantines finished this part of their churches. There is first a large arch with doubly recessed jambs, and, following the outer course of the arch, there is the rich eaves cornice, which is segmental in elevation and terminates in a horizontal portion at the ends, but above that the skew takes an ogee form and all is covered with tiling laid on the vaulting direct. The transept windows are divided into three lights by columns, with capitals of purely Byzantine type.

Photo. Zepdji, Salonica.

CHURCH OF THE HOLY APOSTLES, SALONICA.

The church of St. Pantelemon is small, but very interesting. Its external features express very clearly its plan, which is that of the usual Greek cross type. The exterior, however, has been restored and is now all plastered over, which detracts considerably from its architectural value.

There are believed to be many other remains, especially of Christian date, in this ancient city, as, for example, the mosque called Saatli Djami, which is an Early Christian building though now greatly altered, but the buildings herein referred to are known to be the most important.

The older Turkish buildings in the city are usually very picturesque, both in themselves and as they group with their surroundings, but the modern buildings cannot be said to be of great interest architecturally.

NOTE.—The plans accompanying this article are all to one scale to enable comparisons to be easily made between the sizes of the buildings referred to, and attention is directed to the smallness of the later churches. Although the plans have been drawn from those in Texier and Pullan, every one contains corrections in detail.—C. G.

9, Conduit Street, London, W., 24th Nov. 1906.

CHRONICLE.

THE CRŒSUS (SIXTH CENTURY B.C.) TEMPLE OF ARTEMIS AT EPHESUS.

Publication of Mr. Henderson's Paper postponed.

The Paper on the Ephesus excavations announced for reading at the General Meeting of Monday, the 19th inst., was duly delivered by Mr. Henderson, and was illustrated by a numerous and exceedingly interesting series of illustrations, consisting of Mr. Henderson's original drawings, drawings by Mr. Isaac Cooke, jun., of some of Mr. Henderson's suggested restorations, and lantern slides of photographs specially taken during the progress of the excavations. Publication of the Paper and its illustrations is postponed until after the appearance of the official work dealing with the whole results which is in hand for the Trustees of the British Museum. Mr. Henderson, however, has kindly supplied for publication the following summary of his lecture :—

The purpose of the lecturer was to describe the actual remains found and the fragments which remained of the Crœsus (sixth century B.C.) Temple of Artemis at Ephesus, uncovered and surveyed during the British excavations directed by Mr. D. G. Hogarth in the autumn of 1904 and the spring of 1905; also to place before the Institute his suggested restorations.

He began by stating that the Crœsus Temple was the fourth structure on the site, and that there were remains of yet another (a fifth), called "the Hellenistic Temple," over and beyond it, besides large concrete masses, which were late Roman or early Byzantine, sinking low down into the foundations and rising to about two metres above the Crœsus pavement.

He showed a large plan and sections of the earlier temples, but did not explain them, except to say that they increased in size as one superseded the other. Yet the Crœsus cella walls easily enclose the last of the three.

The general plan shown gave all the remains which were uncovered, which practically amounted to all that was left of the Crœsus and Hellenistic Temples. Before commencing his survey, the lecturer was instructed by the late Dr. Murray to measure accurately every portion of the Crœsus pavement, and this he believes he has faithfully fulfilled.

He showed how the Hellenistic foundations extended beyond the earlier temple, and showed the position of a brick drain beyond the outermost step, which had been covered by the marble paving of the court; also where the step itself survived, and the large pier foundations to support the podium steps.

He further showed photographs of the Temple as excavated, and described the difficulties with water, which were successfully overcome.

The Crœsus Temple was then taken in detail. The central basis of the three earlier structures (from and near which the treasure was extracted)* was raised and re-used as the centre.

The lecturer pointed out that the foundations were practically double the length of the width, that the walls had separate foundations, but not the columns, and he showed a conduit which passed beneath the west doorway.

Foundations to the steps to the Perron, or western platform, were shown both in section and by a photograph.

The paving was then described, the lecturer showing how it was laid to no pattern, but how beautifully accurate all the joints were made.

The remains of the walling to the cella were then described; how markings were found indicating the position of the north wall, and the impression of the east wall in a mass of concrete; and how by the portions remaining the south wall could be traced from the east cross wall to the south-west anta. This walling was shown to vary somewhat to the walling left of the west wall, which shows the position of the north reveal of the great west portal.

Other portions of the superstructure were a plinth and lower base surrounded by Hellenistic foundations lying to the north-east; a plinth—

* The treasure is on view for a time in the Coin Department of the British Museum, and may be inspected on the presentation of a visiting card.

greatly mutilated—to a column directly south of the south-west anta, and half a plinth lying directly to the south-west of this; and lastly, a large mass of Hellenistic foundations, which was not explored, but which showed that settlements had occurred to the Crœsus Temple before these foundations were laid.

Mr. Henderson then described the fragments of architecture which came to light. He began by stating that the outer rank of columns to the peristyle had larger plinths than the inner rank, and that all had a circular lower base about two metres in diameter, formed of three orders of double astragals separated by two filleted scotias.

Many varieties of upper or torus bases were found—these the lecturer illustrated; the most usual type was parabolic in section, with horizontal flutings separated by V-grooves. Another variety was specially pointed out; the upper outline was divided up horizontally by quirked beads, the space between these in the upper half had flutings, but the lower half had reedings, the upper part being concave and the lower convex, which, as shown in a photograph, looked extremely substantial.

No complete drums of columns were uncovered, but 20 various fragments were examined and measured; it was found that 14 of these gave 44, 3 gave 40, and 3 gave 48 flutings to the circumference. He placed the 44 in the outer rank, the 40 in the inner, and the 48 he did not place, as they were of an entirely new type; the flutings were alternately wide and narrow; one torus base was found to be of similar design.

Enough portions of capitals were found for the lecturer to combine these to make an entirely new drawing. He also stated that the batter outwards of the volutes was for the optical purpose of counteracting the excessive foreshortening as seen from the ground, and he mentioned that in Hellenistic times the spiral was contracted horizontally and lengthened perpendicularly for the same optical purpose.

The spiral to the Crœsus Temple was found to be a simple unwinding curve which can be easily set out.

A suggested restoration of a rosette capital was shown, which proved to be somewhat different from the one erected in the British Museum; a leaf and dark echinus took the place of the usual egg and dart, and pointed leaves instead of elliptical were given to the rosette, besides other minor alterations.

Nothing which looked like an architrave could be found, but the bed-mould and corona were both important additions, besides several fragments of the large sculptured cymatium gutter.

The lecturer then dealt with his restored plan; he showed the data from which he planned the columns placed round the peristyle and in the pronaos; he then described his restoration within the cella enclosure, how he placed the columns along the facing found in the foundation, and he placed one column (the 127th) in the centre behind the basis, thus making the naos twice the width of its aisles.

He suggested that the 36 sculptured columns could be accounted for by placing them in the front rank of the ends, and one at each end of the flanks, the remainder lining the central walks of the Pronaos and Posticum.

He found that the whole length of the Temple platform was 109 metres 20 centimetres, and the width 55 metres 10 centimetres. He found that measuring from the central axis to the north and south faces of the columns in front of the antæ, was the same distance practically (about 12 metres 30 centimetres) as from these faces to the north and south faces of the outermost columns; thus dividing the façades into four equal divisions. He then showed an elevation with the height from the pavement to the underside of the architrave of this same dimension, viz. one-fourth the length of the façade. This height makes the order work out at about 8 diameters. He made the entablature a quarter of this, the pediment rose another three-eighths, and with the surmounting acroteria made the proportion of superstructure to the colonnades come to as 3 is to 4.

The lecturer suggested that the roof was of tiling and timber, which would account for the total destruction of the Temple by the arson of Herostratus.

Discussion of Mr. Henderson's Paper.

Mr. D. G. Hogarth, Director of the Excavations at Ephesus for the British Museum, said he had been asked to convey the thanks of the Meeting, in the first place, to Mr. Henderson for his extremely interesting Paper and, he would add, also for the extremely able drawings, though he spoke of these with some diffidence in the presence of professional architects. In one way he was the very last person who should have been asked to do this, seeing that for a great part of what Mr.

Henderson had told them he (Mr. Hogarth) was only less responsible than Mr. Henderson. But in another sense—and he thought in the truest sense—he was the very first person who ought to do it, because no one in that room was so much beholden to the assiduity, the energy, and the acumen with which Mr. Henderson devoted himself to this work for the two seasons they were at Ephesus, and for something like a year since his return. Personally he could not be too grateful for Mr. Henderson's services. He would not venture to say much about the architectural work Mr. Henderson had described; a good deal of that had been done of course in concert; but for the technical detail and for all the drawings Mr. Henderson was solely responsible, and the very ingenious restoration he had brought before them was practically his own work entirely. Perhaps he might say a few words, by way of supplement to Mr. Henderson's Paper, chiefly from the historical point of view. It was only right and fitting to pay a tribute to a very distinguished late Fellow of the Institute, Mr. J. T. Wood, who was the first discoverer of this temple. Of the energy, the persistence, and the acumen which he showed in discovering the temple no one could speak too highly. The discovery stood in the very front rank of English archæological discoveries, and they all had reason to be grateful to Mr. Wood for having discovered this temple, upon a site which no one suspected, under a covering of eighteen feet of earth. It took Mr. Wood rather more than a year to trace his clue, but finally he lighted on the temple; and he did an immense service to those engaged in the recent excavations in having removed about a million and a half cubic feet of earth from the top of the temple. In many ways they who came after him had profited by his labours—they to whom he was the Columbus, who broke the egg, had profited enormously by what he had done. Wood had not only discovered the great Hellenistic sculptures which were one of the great glories of the British Museum, but he also laid bare the pavement of the earlier temple which Mr. Henderson had now plotted and planned. They found that Wood had himself measured with extreme accuracy the remains he had laid bare, and also they found that he had so carefully searched the earth he had removed, that when they re-sifted a part of it they were rewarded with practically nothing at all. But, of course, criticism began where it always did in connection with Wood's work—that is, with his publication; and if he (Mr. Hogarth) criticised this, he was not doing more than had been done in that very room by another late Fellow of the Institute, Mr. Fergusson, who always said that Wood never did himself and his own admirable work justice in his publication of it. That was true particularly of this early temple—that which Wood called his earliest temple, and which Mr. Henderson had described that evening. Wood laid bare the pavement shown on the plan, and practically all the visible remains that had been brought to light again in the recent excavation except at the extreme western and eastern ends, where he was apparently stopped by the flow of water and the want of sufficiently powerful pumping machinery. For some reason, although he mentioned the temple frequently in the course of his book, he never gave any plan or any measurements of it, nor any drawings of its details as he saw them. He did to a certain extent some time afterwards take a part in the discussion which the late A. S. Murray raised as to the restoration of certain architectural details of the temple; but it was almost true to say that, so far as Wood was concerned, he ignored this very interesting early temple that he had discovered under the Hellenistic. The result was that when they went out in 1904 they had as their first task to produce a plan of those remains which Wood had laid bare between 1870 and 1874, but which Nature had again covered up with a growth of weeds and bushes and such things as were to be expected in a marshy hole eighteen feet in depth in an almost semi-tropical plain. That was Wood's great sin of omission in regard to the temples he had actually found. With regard to his idea that this stratum, the Crœsus stratum of the sixth century B.C., was the earliest on the site, whereas there were remains of three temples underlying it, that error, perhaps, was inevitable at the time when Wood worked and in the way he worked. He was not provided with pumping machinery of anything like the strength that they had had in the last excavation. Thanks to the directors of the Aidin Railway Company, he (Mr. Hogarth) had been able to instal a great centrifugal steam-pump throwing water out of a 12-inch pipe; and with the aid of that, throwing out a small river, he was able to keep the site sufficiently dry to get down to the bottom of it. But a very great deal of the work was merely groping in slime. Another reason why Wood would not have discovered these earlier temples was that, as was always the case at that

time, he proceeded by the method of pitting, that is to say, making round or square pits at certain intervals and testing what was at the bottom of them. He (the speaker) had been digging on and off for twenty years, and the older he grew, and the more experience he got, the more he despised and rejected the method of making pits. No matter what size they are made, one cannot tell what the site contains, in the case of a broken and disturbed stratum below. Knossos was a very conspicuous instance of this. When Mr. Evans and he (Mr. Hogarth) went out there in 1900, they discussed what should be done with a certain long slope, and they decided to make pits in it. They sank these, and came to the conclusion that there was practically nothing below. They got certain fragments when they went down to the bottom, but they did not realise that there was anything more important than the rubbish that had apparently been thrown out from the remains of the Palace of Knossos on the top of the hill. Two years afterwards Mr. Evans found under that hill his chief rooms and greatest halls of the Palace of Knossos—all under that slope.—Mr. Hogarth, turning to the plan on the screen, pointed out the walls of the Crœsus Temple, the outer wall of the temple immediately before the Crœsus Temple, the walls of the temple which preceded that, viz. Temple B, and the pedestals or platforms which represented the earliest temple that existed on the site. As far as he could make out from the architectural necessities, and also from the character of the great treasure of nearly three thousand objects which they found partly in the Statue-Basis foundation as a deposit, and partly also scattered over the area of the primitive temple on both sides, he had come to the conclusion that the earliest temple was founded about 700 B.C. The next belonged to about 650 B.C., or probably a little earlier. The third, which immediately preceded the temple described by Herodotus, was begun about the year 600. There was, of course, no absolute chronology. Most of the scattered broken objects found came into the positions where they were unearthed owing to a conflagration which happened about 660 during the Cimmerian raid. The story is that the local tyrant, Lygdamis, invited the Cimmerians, and for his treachery he was bidden to rebuild the temple. That would be Temple B, founded therefore about the year 650 B.C. Its architecture was very poor and its foundations of a very meagre character; it was probably only a hasty restoration and did not last long. It was probably succeeded before the year 600 by Temple C. These three were called the Primitive Temples, and the last (C) continued until the time of Crœsus. The one absolutely certain fact was that the temple of which Mr. Henderson had spoken was that which was in building during the reign of Crœsus of Lydia, and therefore begun about 550. It is said to have taken 120 years to build, and was probably finished between 430 and 420. It was probably the temple at the dedication of which there was the great poetic contest described by Alexander the Ætolian (*apud* Macrob. *Sat.*). One other point. Wood in his book placed a temple later than the Temple of Crœsus between it and the Hellenistic Temple. Mr. Henderson assumed—and he (Mr. Hogarth) entirely agreed with him—that there was no temple between the two; that the Hellenistic Temple built in the time of Alexander the Great immediately succeeded the temple built in the time of Crœsus. Wood's supposed discovery of remains belonging to any intermediate temple was a mistake, and was not borne out by literary evidence when that evidence is rightly understood. It seemed to be the case that the Crœsus Temple continued to stand until the erection of the Hellenistic Temple. As regards the restoration shown them, as Mr. Henderson had himself indicated, it largely rested upon conjecture. With regard to placing the walls of the cella, that was certain, except in regard to the eastern wall. With regard to the columns there was a considerable amount of uncertainty. The columns of the side colonnades, and perhaps of the façades, were fairly certain; but unfortunately they were not sure how many columns in all there were at any time in the Artemision Temple of Diana. It was true that it was said there were *centum viginti septem*; but the doubt was whether there ought not to be a comma after *centum*, and the passage should not be read as "100 columns in all, 27 given by kings," &c. He was afraid that point would never be solved. There was no punctuation in ancient manuscripts, but a great many people had maintained that the total number was 100 and not 127, as Mr. Henderson considered. Therefore it was entirely a matter of conjecture how many they ought to place in the interior of the cella, and in the pronaos and the posticum. With regard to the height of the columns he was very glad to think they were not more than about 40 feet high. Later authorities told us that the columns of the latest temple, the Hellenistic

Temple, the "Wonder of the World," were 60 feet high or thereabouts—about 62 feet. That was no doubt true. We have authorities which show that the great height of that temple was what impressed the contemporary world. But it was difficult to believe that this Crœsus Temple was anything like so high. If they were to follow anything like the ordinary Greek canon of proportion they could not get columns more than 40 feet high, that is, eight and a half times the diameter of the drum. The earliest sculpture which ran along the parapet was on a very small scale: to put it up at an elevation of 60 feet seemed nothing short of a crime, and to put it up to 40 feet would render it indistinct, but not absolutely impossible. He could not believe that that delicate and beautiful work to be seen in the first Archaic Room of the British Museum could ever have been put up at a height of 60 feet above the ground. He had very little doubt, therefore, that Mr. Henderson was right in giving a total height of 40 feet to these columns. With regard to the arrangement of the sculptured bases—there were sculptured bases in the Crœsus Temple as well as in the Hellenistic—that was purely conjectural. Also the arrangement of the capitals was purely conjectural. It was quite possible that the volute columns and the rosette columns did not exhaust all the forms, and that there was something like the same variety that was seen in the great Temple of Didymi. Apparently the Asiatic Greeks preferred variety in certain more conspicuous architectural features to that uniformity which was considered *de rigueur* in Greece; but whether the rosette capitals would have been in the middle and the volute at the end one could not say. He should very much prefer personally to have had the volute capitals in the place of honour rather than the rosette, but that was purely a matter of taste. So, again, the enriched torus bases which Mr. Henderson put in the centre of the façade were conjectural: they had no remains of them. All that kind of detail he hoped members of the Institute would some day study with critical and with sympathetic eyes in the book the British Museum was about to publish, and in the atlas of drawings, which would include all the drawings round the room. The work, he hoped, would appear before a late date in next year. He had only one other thing to say which Mr. Henderson had not said, viz. that the beauty of the material and the work of the Crœsus Temple was very great; it was very much more so than in the Hellenistic Temple, which ranked among the Seven Wonders of the World; it was much more delicate and fine. It was curious that this temple, which was of the most exquisite work, should not have had the fame of the temple after it, which was considerably inferior to it in details and in execution. It only showed that ancient taste in what was considered to be a great artistic period could be affected most strongly by enormous size, by mere grandiosity. For apparently the chief feature of the Hellenistic Temple was a certain grandiosity. At any rate, he thought that the labour they had devoted to this Crœsus Temple—Temple D—was justified in that it must have been one of the finest, as it was one of the earliest, of the great Ionic temples.

Mr. Cecil Smith, LL.D. [*H.A.*], Keeper of Greek and Roman Antiquities at the British Museum, said he should like to express his entire assent with what had fallen from Mr. Hogarth with regard to the excellence of Mr. Henderson's work which he had shown them that evening. He was sure that all those drawings and lantern slides which they had seen reflected the greatest credit on the energy and industry of Mr. Henderson, and would provide for students of architecture a highly important fund of new material for the study of that extremely interesting earlier period of the Ionic order. He should also like to add that he thought their thanks were due to Mr. Hogarth for the excellent address he had just given; and he should like them to know—what Mr. Hogarth had not mentioned himself—the nature of the difficulties under which all the work had been accomplished. Nobody who had not been actually on the spot could realise how serious were the difficulties Mr. Hogarth had had to face. Nearly every step they had to take in excavating the wonderful series of ornaments temporarily deposited in the British Museum involved continuous groping in fetid slime. In Mr. Hogarth's case it had the effect of laying him up in Smyrna with a serious illness; indeed, that sort of climate and that sort of work were likely to be of permanent injury to the health of anybody working there. There was a particular appropriateness in Mr. Henderson's Paper being read in that room, because the first important discussion with regard to the Temple of Ephesus was initiated by Fergusson in the same room some twenty-four years ago; and his predecessor in the position he now held—Mr. A. S. Murray—in 1895 read a valuable Paper on the sculpture and architec-

ture of the Crœsus Temple.* Perhaps he might be allowed to say a word with regard to the inception of this latest excavation. Mr. Wood finished his excavation about the year 1874. The site was the property of the Trustees of the British Museum, and it had always been something of a reproach to British archæology that that site should have been allowed to remain so many years in the condition in which Mr. Wood left it. About the year 1895 the Austrians, who had been excavating in the actual town of Ephesus, made an application to be allowed to continue Wood's work on the site of the temple; but Mr. Murray, very rightly he thought, decided that, as English archæologists had begun the work, they ought to finish it, and before his death he had arranged with the Trustees of the British Museum that an excavation should take place. Those plans were interrupted by his death; thus it fell to him (the speaker) to carry out the arrangements, and in the autumn of 1904 Mr. Hogarth and Mr. Henderson went out, and the results of their work were now before them. With regard to the extreme similarity in the main features of the architecture of the Crœsus Temple with that of the Hellenistic, and with a view to their more complete study, he had decided in the British Museum on a scheme which he thought they would approve. Hitherto the remains of the Archaic Temple had been exhibited in the Archaic Room, while those of the Hellenistic Temple were in the Ephesus Room, two rooms away. By the rearrangement he proposed the whole remains of the Artemision would be put on one side of the Ephesus Room, and on the other side would be grouped the whole of what we have of the Archaic Temple; so that students in future would be able, without going from one room to another, to compare the similarity of the architectural features of the Crœsus Temple with those of the Hellenistic. The outside public perhaps would at first feel rather disappointed that not more of the details of architecture had been found in these excavations to clear up the knotty points which had always interested us with regard to these temples. Take, for instance, so very questionable a point as the superposition of a sculptured drum on a sculptured pier; and, again, the position of the details of the θριγκός, the sculptured cornice running round the parapet of the temple. But when we realise what the present state of the temple is; when we know that the Hellenistic architects absolutely quarried and re-used most of the foundations and fragments of architecture of the Crœsus Temple; when we realise also that on this site of the temple for many hundreds of years afterwards, certainly starting from about 262, when the Goths destroyed the Artemision, quarrying was going on; and when we appreciate the difficulties of disentangling the fragments from the masses of concrete underneath the water, he thought there was no difficulty in explaining why it was these problems have remained even now, at the end of our present excavation, still difficult to solve. Unfortunately, he believed they never would be further solved now. Mr. Hogarth and Mr. Henderson had done the utmost that remained to be done. When this excavation was first started, they had a vision of leaving an absolutely clean site—that is to say, leaving the pavement of the Hellenistic Temple, with the remains of the pavement of the Crœsus Temple below, as clear as they could be made for all future visitors; but anyone who knew what the site was like would see at once that that was impossible. As Mr. Hogarth told them, the water which was pumped out each day returned during the night, and it took only a moderately wet season to leave a deposit of some two or three feet of water over the entire site. After the excavations were finished, complaint came to the Trustees of the British Museum that there had been a considerable epidemic of fever in the district. As a matter of fact this fever was due, not to the excavations, but to the very heavy rainfall which had taken place the season before. At any rate, the long and short of it was that the local officials insisted that the excavation area, which was a stagnant pond then, must be filled in, and consequently this had had to be done; so that future visitors to the site of the Artemision must not expect to see a plan anything like that which Mr. Henderson had drawn. The whole site had been covered in, owing to the exigencies of the local officials, to a height of some sixty centimetres; so that anybody now visiting the site would not see the pavements at all. But he thought that they might be satisfied in feeling that everything that could be done had been done, and that it would never be worth while to excavate any further on that site.

THE CHAIRMAN said he was sure they would all unite with the proposer and seconder of the vote of thanks in acknowledging their indebtedness to

* JOURNAL R.I.B.A., 21st November 1895.

Mr. Henderson for his very interesting Paper, and to Mr. Hogarth and to Mr. Cecil Smith for their remarks on the subject. Speaking for himself, he thought they should probably have been able to understand and appreciate Mr. Henderson's Paper more clearly if Mr. Hogarth's remarks, or some of them, had been made first. He personally had had some difficulty in clearly following Mr. Henderson's description; but Mr. Hogarth had cleared up some of the doubtful points; and probably when the Paper was read in the light of the whole discussion, other doubtful points would be solved.

British School at Rome.

At the annual meeting of subscribers to the British School at Rome, held on the 20th inst. in the rooms of the Society of Antiquaries, Burlington House, Mr. Bryce, M.P., Chief Secretary for Ireland, who presided, congratulated the subscribers on having secured the services of Mr. Thomas Ashby as Director of the school, and urged on the friends of the school the necessity of doing all they could to interest others in the work being done in Rome. There was a great difference between the study of natural science and that of archæology and history. The interest in new discoveries of science would become fainter and fainter as time went on, because these new discoveries, which were such startlingly brilliant novelties to us, would before long become as familiar as the properties of steam. On the other hand the interest of antiquaries in the antiquity and history of those early nations to whom we owed so much would, he thought, with the progress of the world, become always greater, because the older the world grew and the further it moved from those primitive ages the more curious and singular would they appear to be, and the more lively would our interest be in the earlier stages of our own civilisation. It was a matter of the highest interest to investigate the history and antiquities of the nation which had worked so much upon our own lives and our own country. Rome was a most valuable place for the making and training of an historian. Nowhere else in the world, he thought, was there so much history which could be said to lie under the eye as there was in Rome and its neighbourhood. It had had a continuous existence. Egypt began earlier, but there were great blanks in Egypt. In Rome the classical age of the Republic and the earlier Empire, the Mediæval age and the Renaissance age, every one of these threw light upon the other. There was hardly a building in Rome that was not associated with some remarkable historical event. Any one who looked out over the Campagna and thought of all that it had seen received a lesson in history which was worth years of reading.

British School at Athens.

The Report of the Managing Committee of the British School at Athens for the past session states that Mr. Ramsay Traquair [*A.*] was appointed to an architectural studentship of £100 on the understanding that he should devote three months to a study of the Byzantine and Frankish remains in Laconia and three to making plans and drawings of Byzantine churches in Constantinople under the direction of Prof. A. van Millingen. Mr. Traquair spent the first month of his stay in Greece in investigating the Romano-Byzantine fortifications at Sparta, and afterwards worked at Geráki, Monemvasia, and Passavá. He then visited the site of Maina, and travelled up the western coast of Laconia to Kalamáta. In a later tour, rendered possible by a donation given for this purpose by Sir Rennell Rodd, Mr. Traquair visited most of the Frankish castles in northern and western Peloponnesus, making a complete plan of Castel Tornese, and of others such photographs, sketches, and notes as seemed necessary for comparison with the Laconian fortresses. Mr. Traquair's work at Constantinople included the measurement and photography of twenty churches for Prof. van Millingen's forthcoming book.

The Committee are appealing for £1,500 to enable work to be continued on the site of the Temple of Artemis Orthia at Sparta. Excavations were begun last spring, and the discovery of the town walls proved that the site of the ancient city was not confined to the Acropolis, now surrounded by late Roman fortifications, but extended as far as the bank of the Eurotas. The bank of this river furnished the most interesting and most important archæological find of the year in Greece—viz. the Shrine of Artemis Orthia, the savage goddess at whose altar the Spartan youths underwent the ordeal of scourging. Trial-trenches were sunk, and such rich remains of the archaic period of Greek art came to light that the complete excavation promises a greater mass of such finds than has ever been found before in Greece. The finds include innumerable lead figurines, carved ivories, pottery, bronze brooches and ornaments, and a remarkable series of clay masks, many of them painted and modelled with extraordinary freshness and vigour. In this same archaic stratum the trial-trench uncovered walls and roof-tiles, some of them painted. The full excavation will possibly give the means of reconstructing in some measure the earliest temple on the site.

The Committee appeal to the friends of Greek studies for subscriptions to enable the British School at Athens to maintain its high place among the other national schools of archæology in its work of increasing our stock of knowledge of Greek history and Greek art. Subscriptions to the Laconian Excavation Fund should be sent to the Hon. Treasurer, Mr. Vincent W. Yorke, M.A., Farringdon Works, Shoe Lane, E.C.

Mr. Bosanquet has resigned the Directorship of the School to take up the post of Professor of Archæology in the University of Liverpool. Mr. R. M. Dawkins, Fellow of Emmanuel College, Cambridge, is the new Director.

Egypt Exploration.

In a paper by M. Edouard Naville [*Hon. Corr. M.*] read last week before the Egypt Exploration Fund, the author called attention to the results of the campaigns of the last three winters. They had unearthed, he said, the oldest temple at Thebes. It had been most wantonly destroyed; already in old times, during the reigns of the Ramessides, the fine material out of which it was built had been carried away for other constructions; of the delicate sculpture, which revealed an art very little known before, only fragments had been collected; nevertheless, they could still trace the architectural structure of the building and recognise in it a form of sanctuary of which there was no other specimen in Egypt. In one way, perhaps, we have derived advantage from the fact that these remarkable sculptures of the XIth dynasty were so fragmentary, since had it been otherwise we should never have seen any specimens of this peculiar style of art in England or had any to distribute to museums; had the sculptures been perfect and in place they would have had to remain at Deir-el-Bahari. In the old empire the funerary monument of the king was a pyramid; an artificial mound sometimes of huge proportions, which concealed the mummy, and near which was the temple where the king instituted his own worship, which was to be continued after his death. In the new empire the mummy does not rest under a pyramid; it is hidden in a chamber cut in the rock sometimes at the end of a long passage, on the walls of which are depicted the scenes of the other world in a manner such as would be conceived only by the wildest imagination. As for the funerary temple, it was a long way distant from the tomb—it was on the verge of the desert, where it was easily accessible. There the king established his own worship when he was still alive, in conjunction with that of the gods, and used also the walls of the building as a book on which he related the chief events of his life. The first in date of these was that of the Queen Hatshepsu, at Deir-el-Bahari, a large temple built in terraces which was long thought to have no parallel in Egypt, and the clearing of which, except one-third done by Mariette, was the work of the Egypt Exploration Fund. Now they had a building of a new style which participated of both the older and the younger types. They found what they supposed to be the remains of a pyramid, but it was not isolated, it did not stand by itself, and it did not conceal a mummy. It rose on a platform, out of a columned hall which surrounded it on all sides; and as yet they had not discovered the tomb for which it was built, and which it seemed to indicate. The access to the platform on which the pyramid stood was, as in the temple of the XVIIIth dynasty, by a ramp, on both sides of which were colonnades protecting the sculptures of the supporting walls. It was a matter of congratulation that this, the oldest temple of Thebes, and the only one of the Middle Kingdom which was at all well known, was in such a good state of preservation as it was. At the time of the XVIIIth dynasty the temple of Mentuhetep was still the object of a respect so great that the great king of Egypt Thothmes III. made a sanctuary to the goddess. The judgment of experts was that the shrine contained the finest specimen of animal sculpture that Egyptian antiquity had left us.

Finds have been made at Oxyrhynchus of literary papyri on a scale far exceeding discoveries of any previous season. The texts discovered comprise new odes of Pindar, parts of the lost tragedy of Euripides on Hypsipyle, parts of a new Greek historian, and of a commentary on the second book of Thucydides, the second half of the *Symposium*, and portions of two manuscripts of the *Phædrus* of Plato, of the *Panegyricus* of Isocrates, and the speech of Demosthenes against Bœotus. These manuscripts all belong to the second or third century.

John Evelyn.

Mr. S. W. Kershaw, F.S.A., writes: "The remarks of the President of the R.I.B.A., in his Opening Address, as to the great diarist, lead me to state that this year is the bi-centenary of his death, which occurred 27th February 1706. A new edition of the *Memoirs* is appropriately just published (Macmillan), with a learned preface by Mr. Austin Dobson. The three volumes are enriched by many illustrations and reproductions from old prints of places and people. To Evelyn's artistic and antiquarian tastes we owe the preservation of the Arundel Marbles, now in the University Galleries, Oxford. His minute notes of many seventeenth-century buildings in London throw much light on the architectural taste and style of that time, and are replete with references. By them we repicture old London, in many ways a more attractive city than to-day. His visits to St. Paul's with Sir C. Wren and others just before and again after the Fire of 1666 are historic pages indeed. His keen perception of arts and letters would alone make his fame, while the colloquial and fascinating style of the Diary will always attract the student of past times and events and the connoisseur of artistic treasures. I am glad to note that the recently formed John Evelyn Club at Wimbledon retains the memory of this writer, and has for its objects the preservation of any historical or local landmarks likely to be obliterated."

Paper on "Picture Galleries."

The gap left in the programme against the General Meeting of 22nd April is now filled up, arrangements having been made for a Paper on "Picture Galleries," to be read by Mr. A. W. Weissman, architect (of Amsterdam). Mr. Weissman was present in England last July as a member of the Congress, and speaks and writes English well.

The Public and Architecture.

Mr. Hippolyte J. Blanc, R.S.A. [*F.*], in the course of his opening address as President of the Edinburgh Architectural Association said: "What we architects require is co-operation among ourselves, and a fuller and more accurate knowledge on the part of the public who criticise us. There are no works more unsparingly criticised by the public than those of an architect. Patrons of architecture are more numerous and less capable than are those of painting. Paintings are the property of a few, and the general public take little to do with the school of painting. But there is nothing that the 'man in the street' makes claim to know more about than architecture. The architect is, in a manner, a vassal to his client, who may criticise and even compel him to the perpetration of the ugly and incongruous. Architecture ought to be made a part of a polite education; but if the public has no opportunity, either at school or in after-life, of being properly directed in the most interesting and most useful study of architecture, how can an intelligent appreciation of architects' labours be looked for? Do men reap where they have not sown? Wherein, then, is the remedy? It should be in the infusion of a love for architecture at school. General knowledge is most essential, but particular knowledge of architecture is a valuable companion all through life, in one's daily walk and travel; for go where a man may, he is confronted with architecture in some phase, and for lack of knowledge, though he has eyes, he sees not. Instead of schools devoting so much time during autumn, winter, and spring to the sport of football, could not this be varied by a few Saturdays being given up, under special experts, to an examination of some historic old building? By so sowing the seeds of elementary knowledge of the purposes of architectural forms and details, one could look for a new generation, qualified to think and act in sympathy with architectural progress. A writer has said: 'The true end of life is not to be found in its amusements; it is in the daily task of life.' One of the noblest ends of education is to learn the proper use of leisure. It is essential to elevate Work, not Pleasure. The only absolutely reliable source of knowledge is in contact with the real. A subject to be studied cannot be taught so efficiently from wall diagrams, as from contact with the actual building, the flower, the tree, or the rock. In thus suggesting for youth at school a scheme of nature studies and visits to old buildings, there would be to them a union of advantages—namely, bodily exercise, with mental improvement, in a most useful direction. The British public ought to be made to realise its own present incompetency in opinions upon the art of architecture, and no doubt this school will afford good opportunity. As architecture is the Queen of Arts, without which Painting would have no panel and Sculpture no pedestal, it may not seem unreasonable to expect that this Association of Architects should have an opportunity afforded it of submitting suggestions in regard to the new school here when details are being considered. As Sir James Guthrie, the able President of the Royal Scottish Academy, has stated, 'There is too much a medley of conflicting teaching interests at present, which should be co-ordinated if art teaching is to be placed on a proper footing in Edinburgh.' For the architect alone there are great needs. The course of study required for the Royal Institute examinations has presently to be pursued in a disjointed method in the absence of a concentrated system of classes, such as are in full operation in Glasgow and London. If to the great list of studies enumerated by Vitruvius for the architectural student we attach the additions by the French Academy, and of the later modern sciences, there is enough to establish a strong claim for municipal help in the equipment of an art school. Here, in Edinburgh, youths approach an architect's office direct from school, often with little special ability, and with too limited education. In some cases five years' pupilage are exhausted before they realise their unfitness to keep abreast of the requirements of architectural practice. In Germany, pupils enter offices only after a period of university training, and, during pupilage, class-work and office-work proceed concurrently towards the passing of a qualifying examination. There is, in this, the advantage to a student of realising his position and deciding his course before it is too late to change. That office practice and class work should proceed concurrently no one will dispute. Let us earnestly hope the foundation of the new art school, which now has attracted the attention it deserves, will not be long delayed; and further our hope is that its teaching equipment will be such as will supply a full measure of the clamant needs of the architectural student. It may be reflected that those older masters, who contributed so much to our cities' monumental architecture, had no special technical schools in their midst for systematic study. But their scholarliness had to be acquired nevertheless. Pupilage (entered after a complete academic course) extended in their day to seven years. Office hours were long, and distractions outside were few. This secured concentration upon their daily work. At the close of their pupilage, three years of foreign travel with sketch-

book, tape-line, and foot rule completed the sum of equipments for an architect. In less than half the time formerly given to training, present-day students have to cram and swallow a whole encyclopædia of science knowledge, add to it a mastery of the history of architecture, be expert at drawing, and be artists in designing, in composition and decoration, ere they can launch forth as finished architects. Among the average men, 'tis only he who realises he is to the end a student, who will be able to carry on his career with loving affection engendered of knowledge, and thus satisfactorily."

Honours and Appointments.

Miss Emily Penrose, daughter of the late Mr. Penrose, Past President R.I.B.A., has been appointed Principal of Somerville College, Oxford.

Mr. Reginald Blomfield, A.R.A., has been elected Hon. Fellow of Exeter College.

Sir Aston Webb, R.A. [*F.*], has been reappointed representative of the R.I.B.A. on the Court of Governors of the University of Sheffield.

At the Milan Exhibition a Gold Medal was awarded Mr. H. Percy Adams [*F.*] for his architectural works. The similar award to Mr. Edwin T. Hall [*F.*] was noted in the last number.—Mr. Alfred East, A.R.A. [*H.A.*], received a Diplôme d'Honneur in the section of Painting, &c.

On the Art Standing Committee Mr. W. A. Forsyth [*F.*] is acting as Joint Hon. Secretary with Mr. James S. Gibson [*F.*] in place of Mr. W. D. Caröe [*F.*], resigned.

Need for Efficient Fire-extinguishing Apparatus in our National Monuments.

Colonel Eustace Balfour, F.S.A. [*F.*], writing to *The Times re* the Selby Abbey fire, urges the importance of providing efficient apparatus for fire-extinguishing in parish churches. "The ordinary public," he says, "does not fully realise that, next to a bonfire, an organ is the most inflammable creation of man's handicraft. People think of it as a thing composed of metal pipes, such as are exhibited in its front. As a matter of fact, it is entirely of wood, in thin pieces, and connected up by wooden rods, called trackers, of the lightest possible construction. In order to tune the pipes, or repair the machinery, a man has to go in with a lighted candle. In addition to this, the organ is generally placed in contact with the woodwork usually found in chancels." He adds that in all his experience of visiting churches he has never yet seen proper provision made for extinguishing fire. The problems of the provision of fire-extinguishing apparatus will differ in each village, but they are always solvable. The worst case is where the water supply of a village is drawn from deep wells by hand windlasses. In this case water storage in the church itself, both in hand buckets and a cistern, is clearly the proper method. In the most favourable case one may find that there is a natural pressure sufficient to reach the roof. Then properly adjusted hydrants will meet the case.

The Dean and Chapter of York have, since the fire at Selby, revised the rules to be adopted by the officials in case of fire. Canvas hose has been entirely substituted for the old leather hose which has become old and worn. Additional hydrants have been placed in the north transept and engine-house, and chemical extinguishers in the organ-loft and Bible Library. A ground plan has been prepared showing the exact position of each hydrant within and without the minster.

The late C. L. Eastlake.

The death is announced of Mr. Charles Locke Eastlake, late Keeper of the National Gallery. Mr. Eastlake was the predecessor of the late Mr. W. H. White in the Secretaryship of the Institute, resigning in 1878, on being appointed to the National Gallery. The funeral will take place at Kensal Green at 11.30 Monday 26th November.

GOTHIC ARCHITECTURE IN ENGLAND

[*ante*, p. 16.]

From Mr. Francis Bond, M.A. [*H.A.*]—

The question of the origin of the Flamboyant style in France is sufficiently interesting to demand more precise information than has yet been given. Two hypotheses have been brought forward. One is that of M. Enlart, which has been stated at length in a recent number of the *Archæological Journal*, and which I have accepted in *Gothic Architecture in England*, pp. 128–132. The other is that of Mr. Prior, whose statements on pp. 332, 333 of his *History of Gothic Art in England* may be reduced to two: (1) the first is, that the Flamboyant style appeared first in Brittany and then passed through Normandy to Paris. This is the very reverse of the truth. If it were true, it would mean that Brittany was the most advanced province in France in the days of the later Gothic. M. Camille Enlart says: "En Bretagne je ne connais pas d'édifice en avance." It was not the late Gothic of Brittany which influenced that of Normandy, but the reverse. "So far from the English style having passed from Brittany to Normandy, so as to give Normandy its Flamboyant, the influence is rather the reverse; and Brittany, long refractory to the Flamboyant style, perpetuated in the fifteenth century the forms of the fourteenth." The above is translated from a letter from M. Enlart which is at Mr. Prior's service. So much for the first part of Mr. Prior's hypothesis. (2) Secondly, in his book as above,* and on

* "During the fourteenth century Brittany would seem, architecturally, a province of western England." p. 332. "The fourteenth century became the golden age of Breton building." p. 333 of *History of Gothic Art in England*.

p. 538 of the JOURNAL, he tells us that the date of Flamboyant architecture in Brittany is the fourteenth century, and among typical examples of this fourteenth-century Flamboyant he instanced the Kreiszker and the choirs of St. Pol, Folgoet, and Lamballe.* On p. 528 of the JOURNAL I pointed out that the dates of these churches were of the fifteenth, not of the fourteenth, century, quoting them from M. Enlart's *Manuel*. To this Mr. Prior made the astounding reply that M. Enlart's dates were not to be regarded as "chronologies," but as "mere summary notes or parenthetic indications" (I am quoting his exact words). If so, of course I had no case. But it is not so: M. Enlart tells me that his dates are, as often as possible, derived from documents; and he forwards me a list of the dates of some of the more important churches of Brittany, with the sources of their history. They will be of such value to all who are interested in Brittany or in French Flamboyant that I have translated them *in extenso*.

Le Kreiszker.—I had said (JOURNAL, p. 528) that this was partly 1366-1399 and partly fifteenth century. M. Enlart now revises the former date. "The date of the Creiszker is known from the legend of S. Guevroc (Bréviaire de Léon: Propre des saints du diocèse, 17 février). The chapel was founded by Duke Jean IV., who reigned from 1341 to 1399. From other sources it is known that it was finished by Duke Jean V., who reigned from 1399 to 1442." As it was not finished probably till the early part of the fifteenth century, it is not likely that it was begun before the closing years of the fourteenth. "See *Description*, by the Marquis de Coetlogon, 1851; and *Origine de la ville de St.-Pol de Léon et description de son église de Kreiszker*, par Paul de Courcy, 1860; and *Archives de la Commission des Monuments historiques*, nouvelle série, part 5, plate 56; and *Architecture bretonne*, par Abbé Abgrall, 1904, p. 15.

"*Cathédrale de Saint-Pol de Léon.*—Its dates are well known, generally from the *Gallia Christiana*. M. Anthyme St. Paul gives for the choir the date of 1431 to 1450 in Joanne's *Dictionnaire de la France*; and it is known that Bishop Jean Validre obtained in 1431 a sum of 12,000 livres for the building of this choir. See *Gallia Christiana*, vol. xi., col. 644-646; *La Cathédrale de Saint-Pol*, by Peyron, Quimper, 1901; and *Origine de la ville*, by Paul de Courcy, 1860."

"*Le Folgoet.*—The church was begun in 1365; the choir was begun in 1409; there was a consecration in 1419. In 1422-1424 Duke Jean V. installed a college of canons in this church; the ducal ordinance is preserved which institutes them, and on the tympanum of the doorway is the inscription: 'John, the most illustrious duke of the Bretons, founded this college, A.D. 1423.' See *Congrès archéologique de France*, 1896; *Excursion* p. 110; *Notice* by Abbé de l'Orme, p. 211. There are other notices by Marquis de Coëtlogon, Brest, 1852; Paul de Courcy, 1849; P. and H. de Courcy, 1850; Miorcoc de Kerdanet, 1853; and Abbé Abgrall, *Architecture bretonne*, pp. 47-55."

"*Lamballe.*—It is the choir of the Church of S. Jean which dates from 1420 to 1465, according to M. Anthyme St. Paul; see *Guide Joanne* for Brittany, p. 88, and Joanne's *Dictionnaire de la France*. Other parts are more ancient; the holy-water stoup is dated 1415. The choir of Notre Dame, Lamballe, was commenced in 1371, as we learn from a chart of Duc Charles de Blois of this date." See *Notions historiques et archéologiques sur la ville de Lamballe*, by Guernest: Saint-Brieuc, 1888.

From the above it may, I think, be fairly agreed that the chronologies which I quoted are a good deal more than "parenthetic indications." I feel sure that if Mr. Prior will study the dates of such other churches in Brittany as are of Flamboyant character, he will find in every one of these also it is impossible for any to have been built before the fifteenth, or at any rate before the closing years of the fourteenth, century.

In concluding what I have to say on this point let me add that I recognise as cheerfully as M. Enlart does in his letter to me that Mr. Prior in 1900 signalised the origin of a part of French architecture. But his hypothesis was discredited at the outset, partly by being based on impossible chronologies—I cannot conceive how a practising architect, who had inspected the buildings in person, should be unable to distinguish between the fourteenth and fifteenth century work of France — partly by his inversion of the whole direction of the current of late Gothic in the west of France, the movement being made to start from Brittany and proceed eastward, instead of the reverse.

* He does not say whether he means S. Jean or N. Dame. Lamballe.

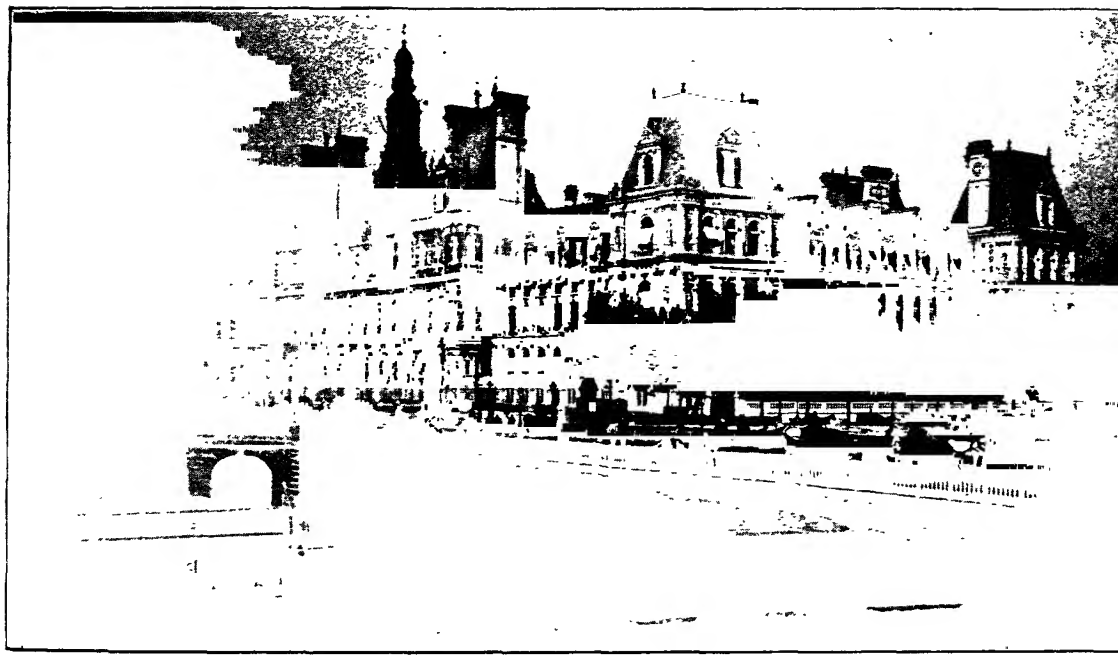
MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1906-07, held Monday, 19th November 1906, at 8 p.m.—Present: Mr. Henry T. Hare, *Vice-President*, in the Chair; 30 Fellows (including 9 members of the Council), 33 Associates (including 1 member of the Council), 3 Hon. Associates, and several visitors: the Minutes of the Meeting held 5th November 1906 were taken as read and signed as correct.

A Paper by Mr. A. E. Henderson, R.B.A., on THE CRESUS (6th Century B.C.) TEMPLE OF ARTEMIS AT EPHESUS, was read by the author and illustrated by photographic lantern slides and drawings.

Some remarks descriptive of the British Museum Excavations at Ephesus were made by Mr. D. G. Hogarth, Director of the Excavations, and Mr. Cecil Smith, LL.D. [*H.A.*].

A vote of thanks having been passed by acclamation to Mr. Henderson for his Paper, the proceedings closed, and the Meeting separated at 9.50 p.m.



THE HÔTEL DE VILLE, PARIS.

MODERN TOWN-HALLS OF FRANCE: THEIR PLANNING, DECORATION, AND EQUIPMENT.

[*From the Godwin Bursary Report* 1905.*]

By FREDK. R. HIORNS [A.], *Godwin Bursar* 1905.

PART I.—THE HÔTEL DE VILLE OF PARIS.

MUNICIPAL ADMINISTRATION IN FRANCE.

FOR administrative purposes France is divided into eighty-six departments or counties, each department into arrondissements (or districts), an average of four to seven in each, and the arrondissements into "communes" or parishes, of which there are about thirty-six thousand in France.

The departments are represented by a Prefect, who is selected by the President of the Republic, and a "Council General," composed of elected members (elected every three or four years), who deliberate on the various administrative matters which concern the department. The Prefect holds an office of great power, and is responsible for the execution of the decisions of the Council; he may even veto the Council's decisions and act without their consent or authority.

The arrondissements are represented by an under-prefect and a council of elected members.

The communes are represented by a mayor and a municipal council of from eight to thirty-six members, according to their size and importance. The mayor is elected by the

* Members are referred to the original Report for the very fine and complete collection of photographs of the buildings treated of by Mr. Hiorns. For the purposes of the present publication only a selection, to a considerably reduced scale, can be given.

municipal council, and is the representative of both the commune and the central government under the Prefect's instructions. The mayors conduct civil marriages, and are assisted in this and other civic duties, including the registration of births, marriages, and deaths, the direction of committees of public health, poor relief, &c., and electoral matters, by two to five adjoints, or assistants, who are nominated by the Prefect.

For the Department of the Seine and the City of Paris the administration is somewhat special. Paris—or that portion which comes within the fortifications—is divided into twenty arrondissements, each of which is again subdivided into four quarters, each returning a representative to the Municipal Council. The latter therefore includes eighty members, who, with twenty-one others representing the Department of the Seine, make a total of 101 councillors who meet at the Hotel de Ville of Paris. There are two Prefects, viz. of the Seine and of Police, who suggest and advise as to the course of municipal legislation and general administration, and are responsible for putting the decisions of the Council into execution. The Prefect of Police is especially concerned with matters affecting the safety of the capital and its traffic and transit arrangements.

A President is elected annually to direct the deliberations of the Council, and he is assisted by two vice-presidents and four secretaries, who form with him an executive committee.

It is interesting to note that one of the standing committees of the Council is for "Education and Fine Arts," and that a sum of about four million francs appears in the annual municipal "budget" for the "service" of architecture and the fine arts.

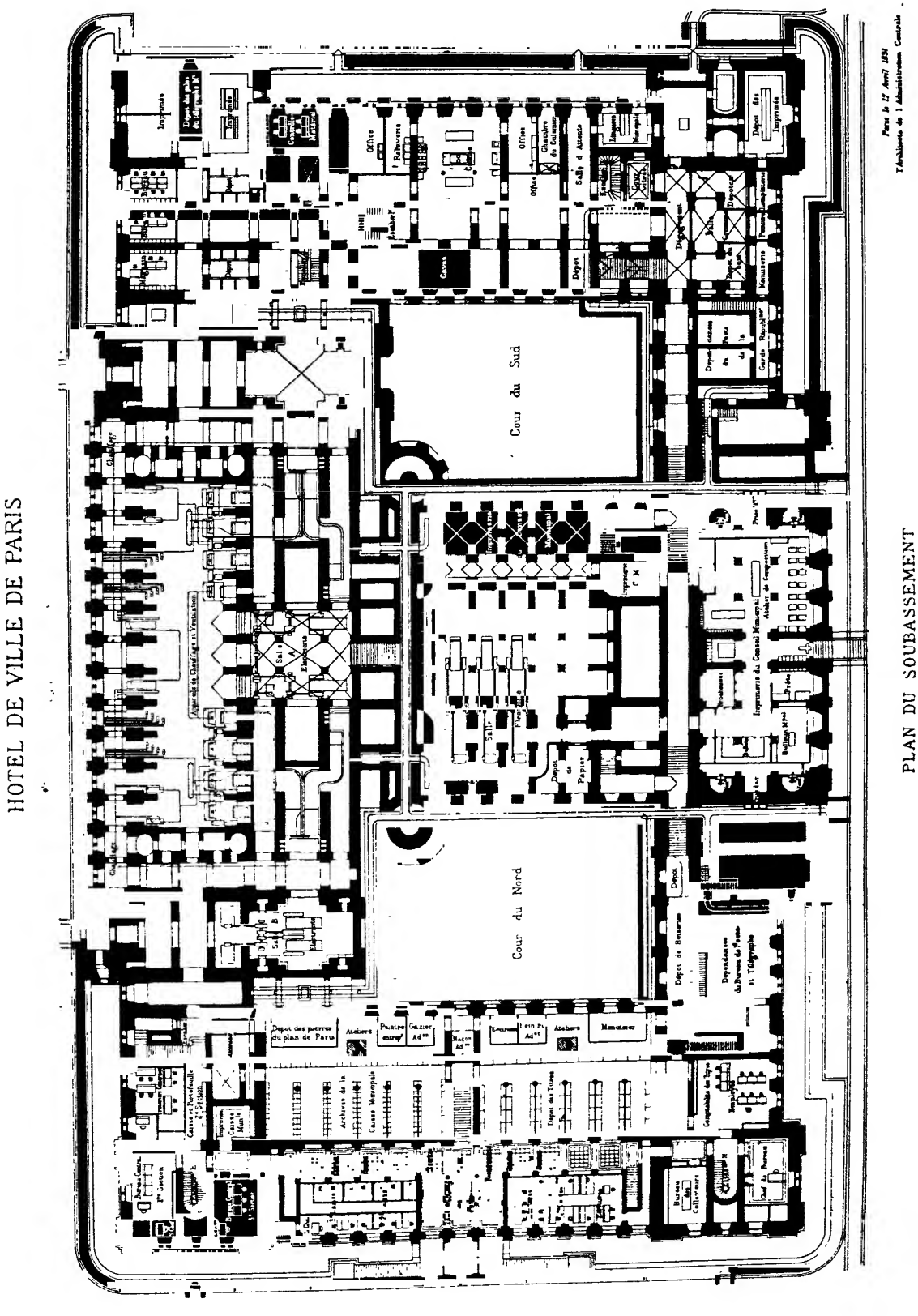
The arrondissements of Paris, contrary to the practice of London boroughs, have no separate administrative life. Each, however, has its own mayor, who is usually a distinguished resident nominated to act as such by the President of the Republic, and has also its own "mairie," or district town-hall.

THE HÔTEL DE VILLE OF PARIS.

The original Hotel de Ville, which the present building has replaced, appears to have been commenced in the year 1533 by an Italian architect, Dominique de Cortone, usually called Boccador, on the site of a house frequently used as the abode of royalty and belonging to Philip Augustus. The building at this time was comparatively small, and the restricted accommodation necessitated various additions being made to it up to the time of its final completion in 1840. It has been described as a monument the "interior of which vied in splendour with the Tuileries. Princely festivals were given here in honour of Queen Victoria in 1855 and of various other crowned heads at different periods."

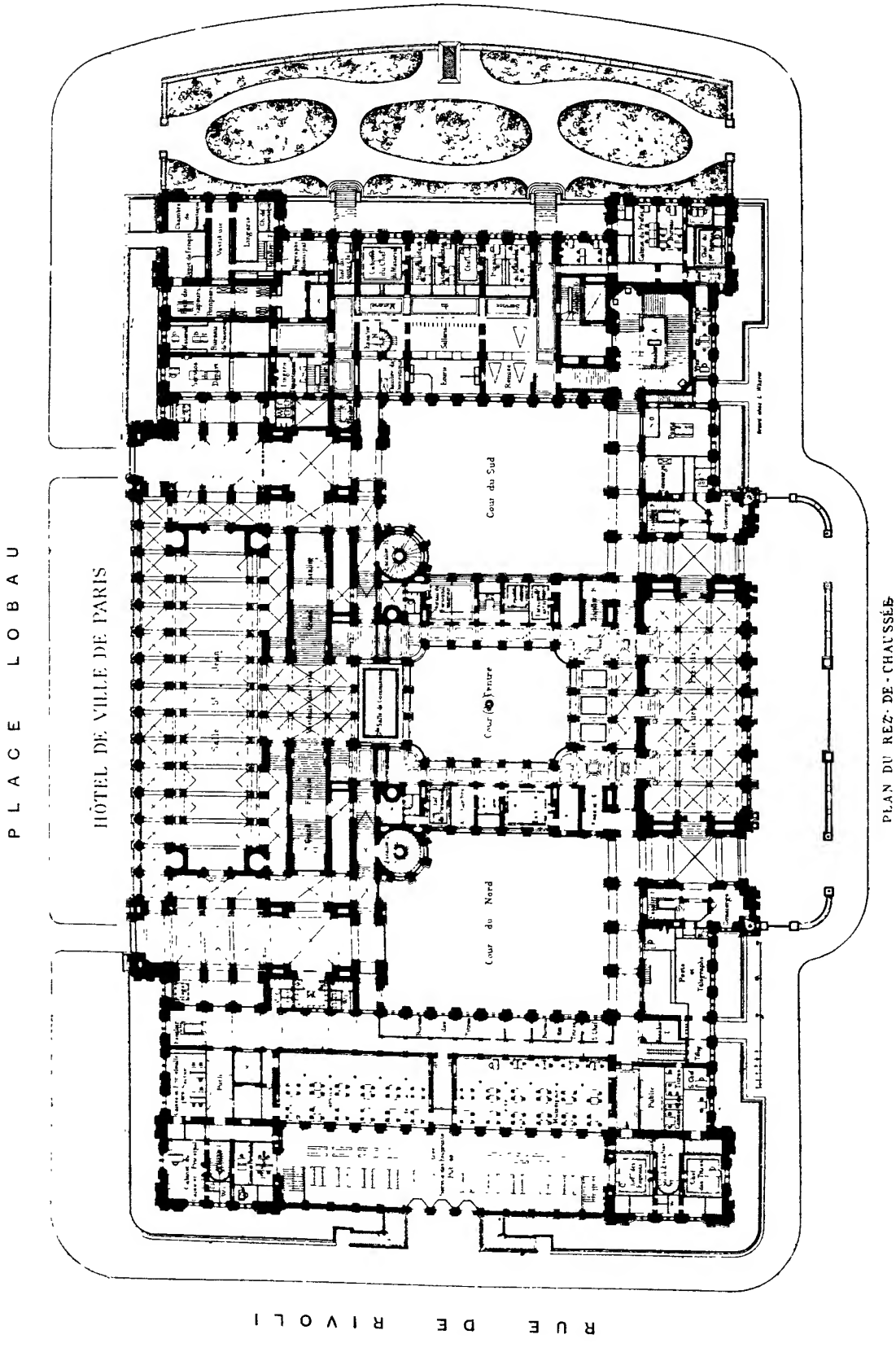
The old Hotel de Ville held a prominent place in the French Revolutions, having formed the principal meeting-ground of the democratic party. In 1789 Louis XVI. came from Versailles to the Hotel de Ville in submission to the National Assembly, and from the steps of the building, in 1848, was proclaimed the institution of the Second Republic. From September 1870 to February 1871 the building was the seat of the "National Defence" Government, and afterwards that of the Communards. Its end came on 24th May 1871, when, while a struggle was raging between the opposing parties, it was fired with explosives, and entirely destroyed, together with some hundreds of occupants, its art treasures, and a valuable library of 65,000 volumes.

For the rebuilding of the Hotel de Ville an architectural competition was inaugurated in the following year, the instructions to architects stipulating for Boccador's ancient façade to be reproduced in the new building, and certain portions of old walling to be utilised as far as possible. Sixty-six designs were received for the new building in 1873, and were



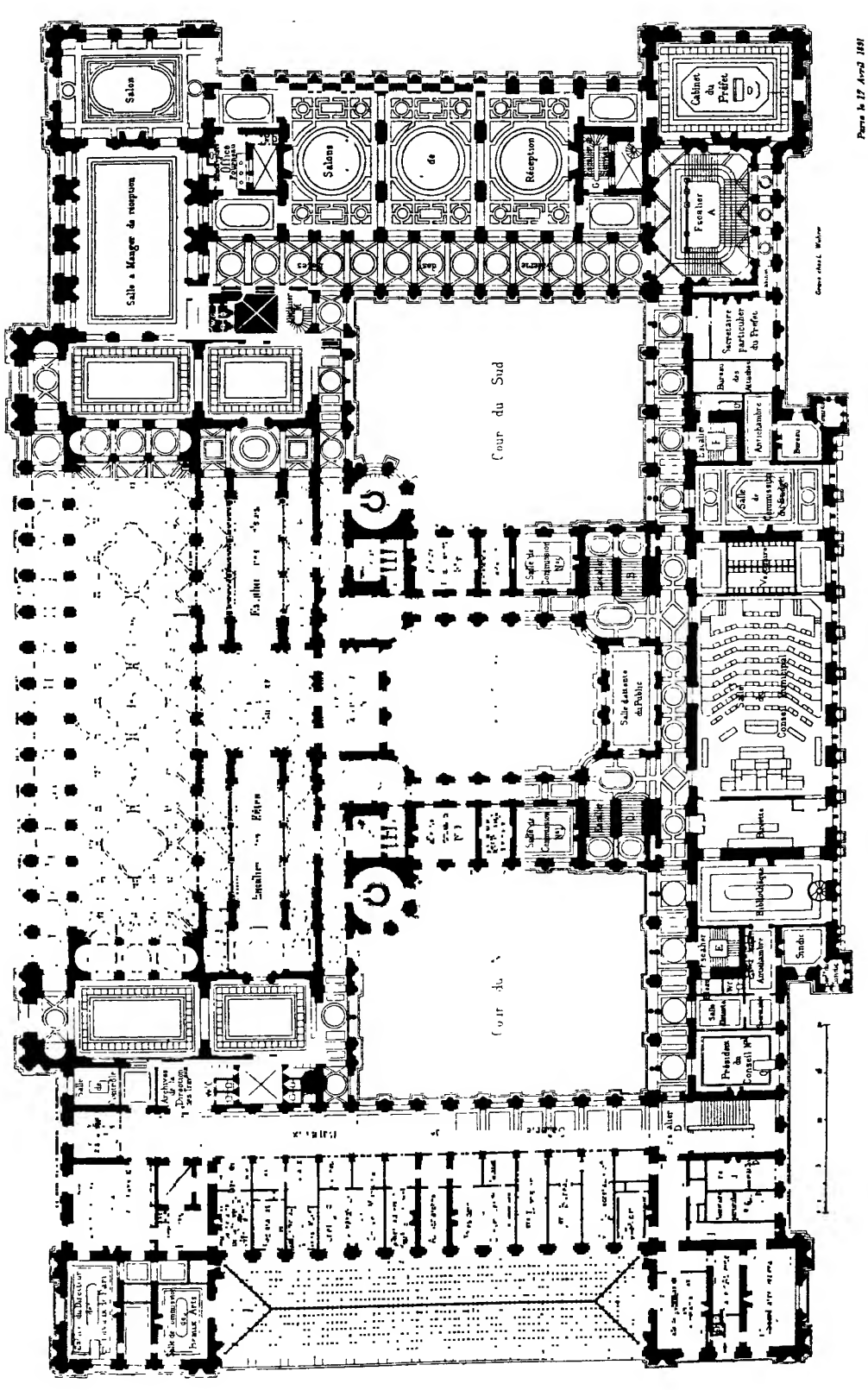
HOTEL DE VILLE DE PARIS

PLAN DU SOUBASSEMENT



PLAN DU REZ-DE-CHAUSSÉE

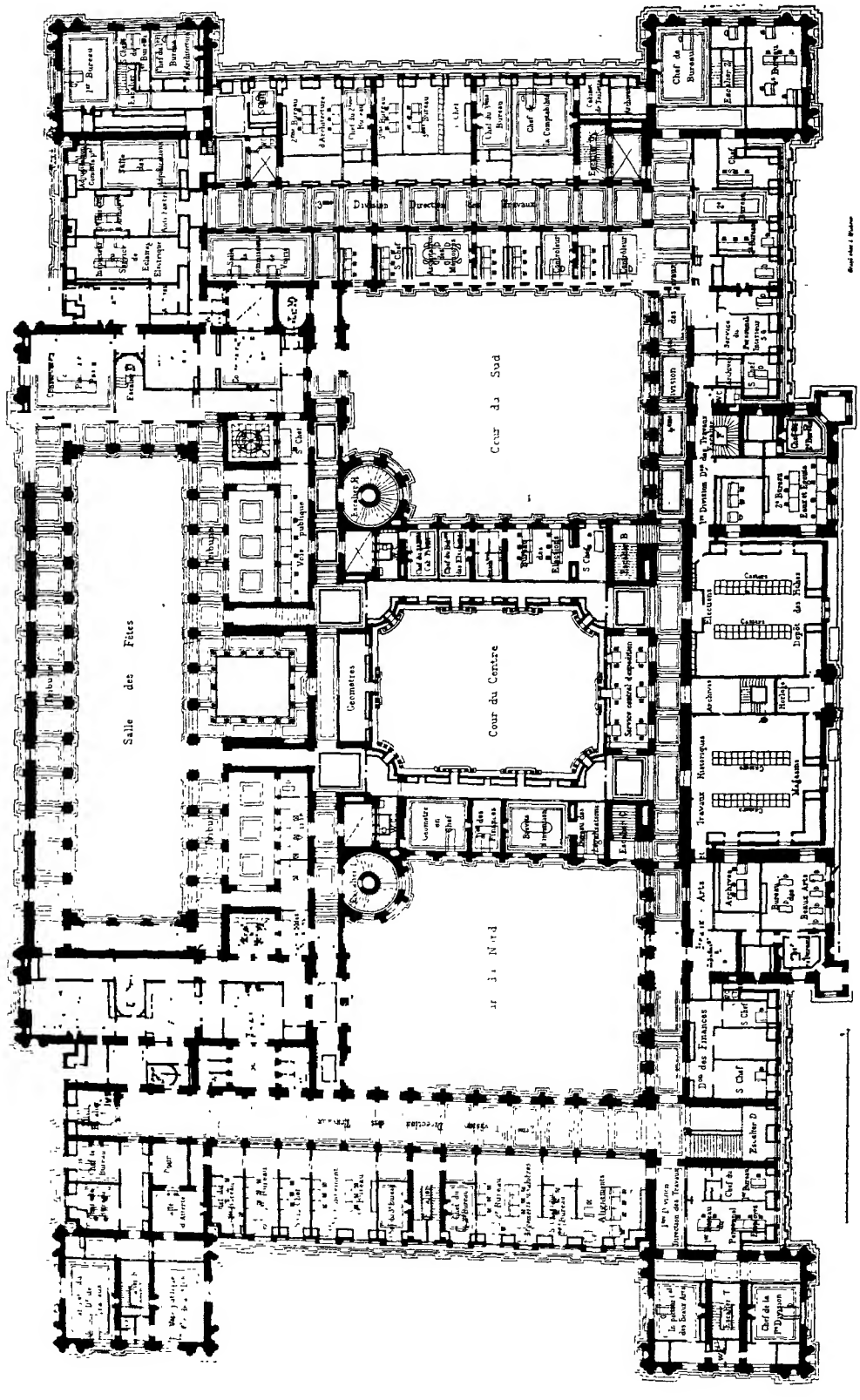
PLACE DE L'HÔTEL DE VILLE



HOTEL DE VILLE DE PARIS

PLAN DU 1ER ETAGE

HOTEL DE VILLE DE PARIS



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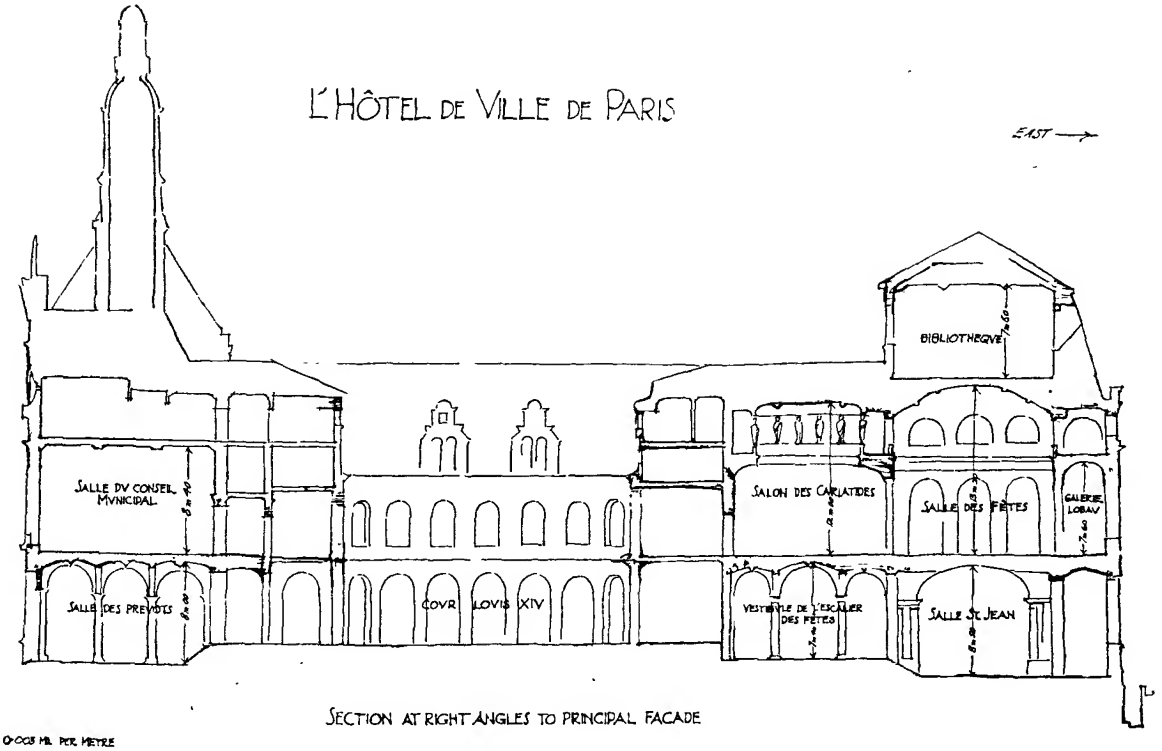
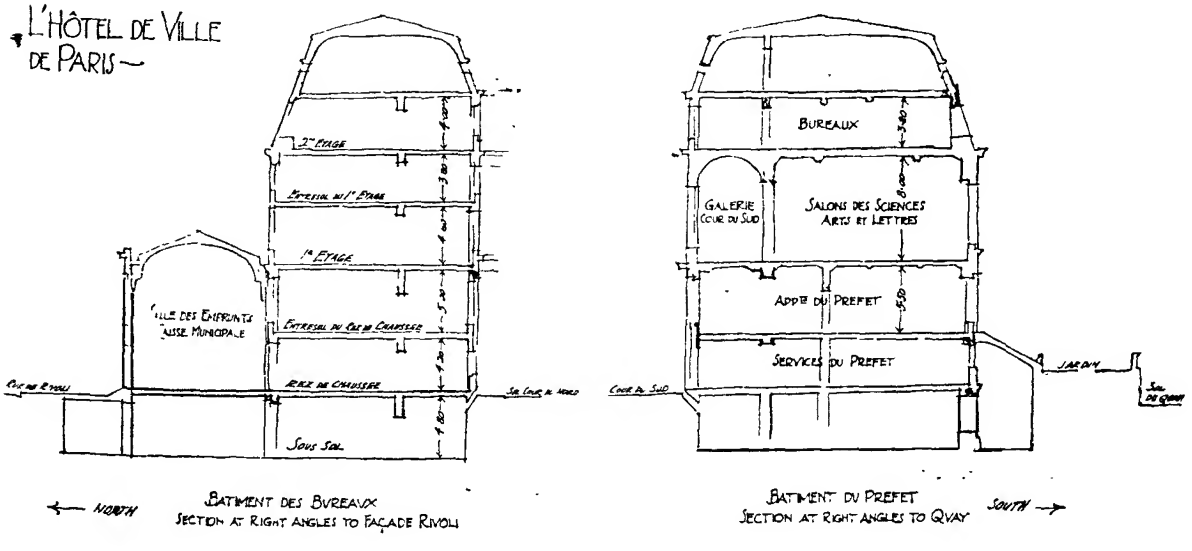


SECTION AT RIGHT ANGLES TO PRINCIPAL FACADE

SC. 0·005 ML PER METRE



BATIMENT DES BUREAUX
SECTION AT RIGHT ANGLES TO FAÇADE RIVOLI

BATIMENT DU PREFET
SECTION AT RIGHT ANGLES TO QUAY

SCALE – 0·005 ML PER METRE

adjudicated upon by a jury of thirty members, who selected eight designs for final consideration, the result being that MM. Ballu and Deperthes were placed first and appointed architects, while MM. Rouyer, Davioud, and Vaudremer received first, second, and third premiums respectively of 15,000, 12,000, and 10,000 francs.

It appears as if several modifications were afterwards made in the accepted design by the instructions of the Administration, and that the original intention to utilise parts of the old building was abandoned. The remains of the latter were removed in 1874, and from that year until 1884 the construction of the new Hotel de Ville proceeded without interruption. M. Ballu, one of the distinguished architects of this building, died in 1885 when the construction had just been completed, but before the internal decorations in which he was specially interested had commenced. M. Formigé, his principal assistant, was afterwards appointed architect to the building, and was associated with M. Deperthes in its decorative completion. M. Formigé still occupies this honoured position, and is an architect of considerable distinction.

The accompanying plans, obtained through the courtesy of M. Bouvard [*Hon.Corr.M.*], Directeur des Services d'Architecture to the City of Paris, show the general disposition of this fine building, and render a detailed description of the planning unnecessary. The building takes the form of a rectangle with three large internal courts with which carriage-ways connect those at the ends with the Place de l'Hôtel de Ville and Place Lobau. The length of the principal façade is 143·20 metres, or 470 feet; that of the side returns 80·25 metres, or 263 feet. The area of the site is 14,476 square metres, or 155,732 square feet, the portion actually covered by the building being 10,570 square metres in area (113,712 square feet).

The new building preserves a similar disposition of plan to that of the ancient Hôtel de Ville. The central portion comprises the great halls and reception-rooms and the apartments of the Municipal Council, with committee rooms and a large proportion of the administrative offices grouped off the galleries circumscribing the central courtyard.

Along the river side are the great reception-rooms, the apartments and offices of the Prefects, while on the side of the Rue de Rivoli, one of the most crowded thoroughfares of Paris, occur the principal public municipal offices—more particularly those connected with finance administration, the city treasury, &c. Other administrative offices, and more particularly those connected with the Direction of Public Works, occupy the upper floors generally. The large library and archives stores are placed in the roofs.

In the basement are placed the apparatuses for heating and ventilating the building and for generating electricity for lighting and other purposes; printing rooms from which the official journal, notices, reports, and other papers of the Council are issued; the rates offices and stores, stabling and coachhouses of the Prefects and other officials, offices, kitchens, &c.

A post and telegraph office is located on the ground floor of the building adjoining the principal entrance.

Little information is available as to the construction of the building. The floors appear to be formed of iron joists and cross joists, spaced about half or three-quarter metre apart, and plaster of Paris in which iron rods are embedded at intervals. The general form taken by the building, with approximate heights of principal and mezzanine floors &c., is indicated on the skeleton sections (p. 67).

The building is heated by steam, for which purpose there are eight Belgian tube boilers (De-neyer), and two others of the same type are used for working the electric motors.

Fresh air is forced under pressure from the basement into the principal apartments above and introduced through metal gratings in the floor, while openings are provided in the ceilings above the electroliers for the escape of vitiated air into chimney flues. Steam coils

are also commonly concealed in the window backs, the cooling areas of glass being the points where warmth is most required.

In winter the fresh air is warmed before distribution by being passed over heated steam coils in the basement. The air destined for the Council Chamber is specially cleansed and moistened on entering the building by being made to pass through fine vertical wire gauze screens over which water is flowing. Moistening the air in this way is considered to be of some importance. In the Council Chamber extraction fans are also provided in ceiling openings.

Lighting is by electricity, gas, and oil—the former being used for all the principal apartments. On ceremonial occasions, when the reception-rooms are in use, the necessary electricity for lighting purposes is obtained from the central municipal supply station, that generated on the building being only sufficient for ordinary requirements. This was one of the earliest buildings of importance in which electricity was extensively used for lighting purposes. The lustre electroliers, which form so noteworthy a feature in the decorative scheme of the reception-rooms, are of great richness and beauty. These, together with mirrors and the lighting installation, are understood to have cost nearly half a million francs.

The building is faced entirely with stone, and the external design may be judged from the accompanying illustrations. The height from the ground to the cornice of the angle pavilions is 26·30 metres, or 86 feet, and to the top of the flèche is 50 metres, or 164 feet. Being set in a good open space the exterior of the building can be seen to advantage all round.

The total cost of the building, exclusive of the amount spent in decorative painting, sculpture, &c., was 26,000,000 francs, and the sum since expended on applied decoration and sculpture is 3,598,700 francs—viz. paintings and colour decoration 2,500,000 francs, sculpture 1,098,700 francs.

THE GREAT RECEPTION-ROOMS AND THEIR TREATMENT.

The feature of greatest interest perhaps in the Hôtel de Ville is the magnificent suite of reception-rooms the treatment of which will now be described. These are used for the entertainment of monarchs, heads of States or other great personages, and public bodies to whom the municipality may desire to show honour.

We begin at the Salle Saint-Jean, looking on to the Place Lobau, on the east side of the building. This large hall is 47 metres by 20·50 metres (including side galleries), by 8·50 metres in height (154 feet by 67 feet by 28 feet), and has entrances at each end from the stone vaulted carriage-ways under the building connecting the Place Lobau with the north and south courts. On the occasion of great receptions this apartment is used as the "vestiaire," or cloakroom. It has an arcaded colonnade on the two long sides dividing it into eleven bays, from which spring groined vaults intersecting the main elliptical barrel ceiling. The latter and the vaulted galleries and their walls are faced in freestone, panelled, carved, and otherwise enriched, but uncoloured. The shafts of the columns are of a light brownish red, and apparently of marble. Between the columns and their corresponding pilasters are tall bronze lamp standards, finely designed and executed, and frequently found throughout the interior of this building.

The floor is of white, black, and grey marbles. The three central bays of the arcade on the west side open, with some steps leading up thereto, into the vestibule of the grand staircase. This is 13 metres by 11·50 metres by 7·40 metres, and is vaulted in freestone springing from stone-faced walls and four detached columns in veined red marble occurring on lines in continuation of the side walls of the staircase. The doors opening off the vestibule are of oak; the floor is of marble slabs in various colours laid to geometrical patterns. There are two bronze lamp standards, similar to those previously mentioned, on each side of the vestibule at the feet of the staircases and the sides of the central doorways.

The grand staircase itself consists of two long straight stairs with intermediate landings opening off right and left of the vestibule in a line parallel to the Salle Saint-Jean and the Salle des Fêtes above on the first floor, to which it leads. It is 4·80 metres (15½ feet) in width and 55·50 metres (182 feet) in extreme length, including the top landings. The stairs themselves are of white marble. At the sides near the foot are arched niches containing marble figures, "Song," "The Accompaniment," "Flowers," and "Fruits," by the sculptor Barrias, the pilasters at the sides being inlaid with black and white veined marble. Ascending further, the side walls of the staircase are lined with pink marble with darker red veined blocks, the frieze above being of grey, dark red, and black marble squares with central "rosettes" of wrought iron. The intermediate landings have oak doors in the side walls with hanging ornaments at the sides also in wrought iron and excellent examples of the smith's art. The floors of these and the top landings are in white, black, pink, and red marbles.

PRINCIPAL STAIRCASE (LOWER STAGE), HOTEL DE VILLE, PARIS.

Circumscribing the top of the staircases are colonnaded galleries. The columns have shafts of red marble and rest on the side walls. From these springs the stone-vaulted ceiling, which, with its refined enrichments, is architecturally as fine as anything in the building. No colouring has been attempted on this vaulting as yet. The balusters between the columns are of polished red marble: the capping, plinth, and stringcourse under, together with the pedestals of the columns, are of a rich cream colour, polished and probably marble, but having the appearance of an artificial composition.

The walls of the staircase galleries are, generally speaking, uncoloured, though a few panels have received paintings—scenes in some of the gardens and pleasure resorts of Paris. The domes, too, above the top landings of the stairs are decorated in colour and have paintings

representing (at the south end) "The Songs of the Banks of the Seine," and (on the north) "The Seasons," "Day," "Night," &c.

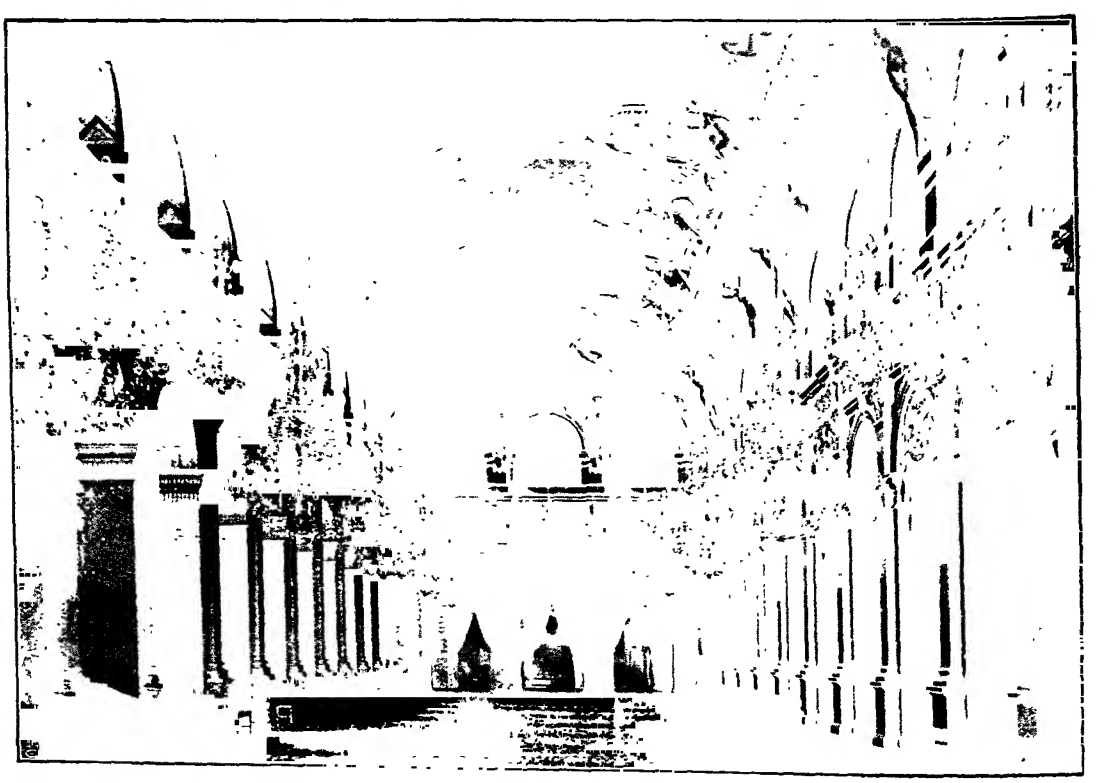
Beyond the top landings occur the ante rooms or salons, leading up to the ends of the Salle des Fêtes. That first entered at the south end (11·50 metres by 8·50 metres) is rectangular, with a flat ceiling deeply panelled and bossed. The general colouring is in shades of brown, with paintings, symbolical of Summer and Winter, round the walls, above the oak dado, by Puvis de Chavannes. These wall paintings have a fine effect looked at in the distance from the foot of the staircase. In the four angles of the room are figure "torchères," in bronze, larger than life size, representing the continents of Europe, Asia, Africa, and America.

PRINCIPAL STAIRCASE (UPPER STAGE), HÔTEL DE VILLE, PARIS.

The corresponding room at the north end is similar, but the wall paintings, "The Joys of Life," and another, recently completed, opposite, are by Roll. In the spandrils of the wall arches are paintings representing "Work," "Sunset," "Sleep," and "The Dream." Close up to the ceiling are two arc lamps surrounded by smaller glow lamps.

The rooms between those just described and the ends of the Salle des Fêtes are similar to them in height and width, but 13·75 metres in length. That at the south end is known as the Salon Henri Martin, the whole of the decorative paintings in the apartment being by the artist of that name. The room is open on all sides and arcaded. The paintings in the spandrils, frieze, &c., represent Architecture, Literature, Music, Painting, Sculpture, &c., and the central panel of the ceiling "Apollo and the Muses." The subdued colouring of this apartment forms an effective contrast to that of the apartments adjoining it on the north and south sides.

The corresponding salon at the north end of the Salle des Fêtes has paintings by Bonis. The subject of the centre ceiling panel is "The Inspiration and Education of Nature," and those of the frieze spandrils of the arcading "Physical and Intellectual Exercises,"



SALLE DES FÊTES, HÔTEL DE VILLE, PARIS.

Physics, Chemistry, Philosophy, and Astronomy. The general decoration is in browns and gold.

The Grande Salle des Fêtes is 50·30 metres long by 13 metres wide by 13·20 metres in height, or 165 feet by 42½ feet by 43 feet, but the sides have an open arcade of thirteen bays, and at the ends of three, which in effect increases the dimensions to 57·75 metres by 17 metres (189½ feet by 56 feet), further added to by the great staircase occurring along one side and the Salle-à-Manger and ante-rooms at the ends, giving a through vista of a total length of 97 metres, or 318 feet. Even this appearance of size is magnified by reflection in mirrors cleverly arranged in the arched recesses of the farthest wall of the Salle-à-Manger and the north ante-room respectively at the opposite ends. The judicious arrangement of mirrors is a feature in which the French excel.

GALERIE LOBEAU, HÔTEL DE VILLE, PARIS.

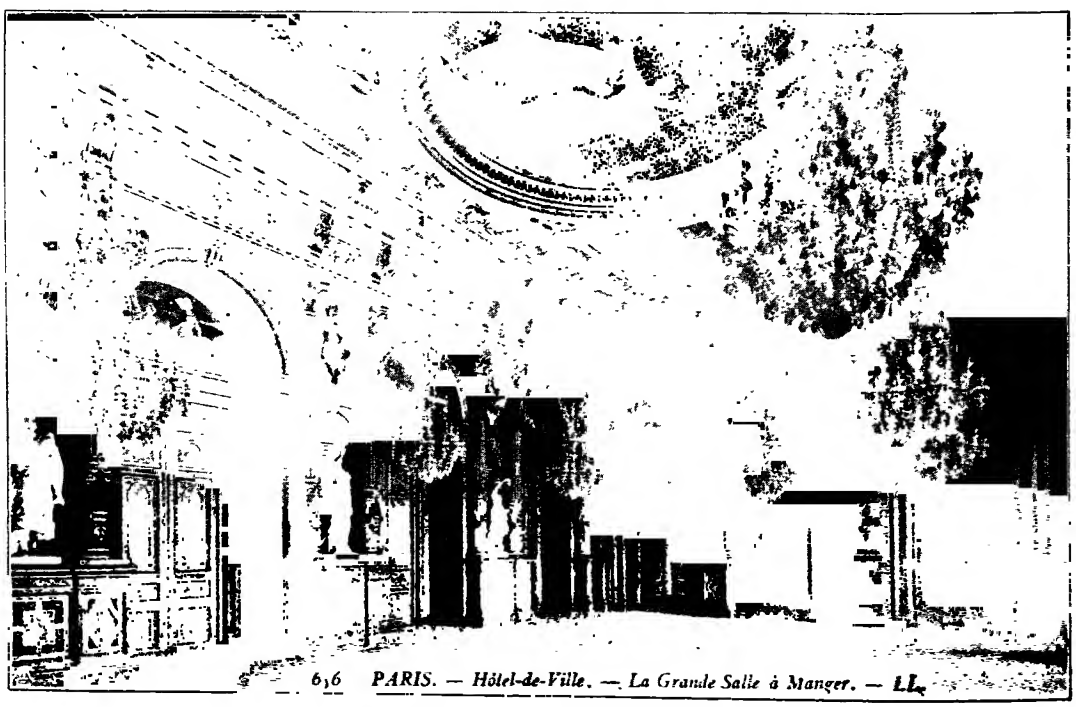
The ceiling is of "barrel" form, with returned ends, and is perforated at the springing with the round-headed openings of a "triforium" gallery circumscribing the apartment with groins intersecting the main barrel.

The gallery is provided for the use of privileged persons who may wish to view from this elevated position a fête in progress on the floor below. Musicians are accommodated at one end of this gallery, and also around that portion of it which surrounds the "Salon des Cariatides." (See below.)

The springing of the barrel ceiling is divided on the long sides into three bays by boldly modelled figures (between the groins of vaulting) supporting elaborate scroll pediments. Those figures which occur in the angles of the room (by Blanchard and Desbois) are emphasised by being covered with gilding. In the spandrils of the triforium arches are painted figures representative of the more prominent French provinces and their chief products: Bretagne, Flandre, Normandy, Champagne, Provence, &c. Blue is the predominating colour in these spandrils. The gallery balustrade is of polished red marble.

The painting in the central panel of the ceiling represents the "City of Paris inviting

the World to its Fetes," and is by Benjamin Constant. Reds predominate here. The subjects of the large end panels of the ceiling are Music and Dancing "passing down the ages," by Gervex and Morot respectively, and of the intermediate smaller ones "Perfumes" and "Flowers," by G. Ferrier. The ribs and panels of the ceiling are gilded on a ground of buff and rich yellows. The general colour scheme of the apartment is in cream and gold. The effect of the whole is superb, though to English taste, perhaps, suffering from an excess of ornament. There are twelve principal lustre electroliers, and alternating with these twelve others of smaller size placed at a higher level. In the ceiling above the electroliers occur the grilles through which vitiated air is extracted. The chairs used are of elegant design and gilded over their entire surface, including the seats. The flooring is of oak blocks or



LA GRANDE SALLE-À-MANGER, HÔTEL DE VILLE, PARIS.

parquetry in about 2-inch widths, and so well executed that the joints are almost invisible. The same applies generally to the flooring of the principal rooms throughout at this level.

Along the side of the Salle des Fetes next the street is the Gallery Lobeau, 76 metres long by 3·50 metres in width, with a ceiling composed of a continuous series of domed vaults. These all contain paintings by Picard representing "Dreams," "Poetry," "History," "Art," "Industry," "Peace," &c., and "The Birth of Paris." The general decoration of the cupolas is by Risler. There are at the ends of the gallery some wall paintings by Berteaux and others, and sculpture groups which at present are in plaster only. Some of the paintings are curious as introducing the modern silk, felt, and straw hat, and morning coat. One regards them with mixed feelings.

Opening off the centre of the long side of the Salle des Fetes opposite this gallery is the Salon des Cariatides, 12·25 metres by 10·75 metres by 12 metres high, so named, apparently, from the figures in the upper stage, above the level of the gallery balustrade, supporting the

ceiling. The apartment occupies an effective position over the centre of the length of the grand staircase which it overlooks on two sides. The vista is fine. The gallery overhangs the floor by means of large coves springing from the cornice of the "order" composing the lower stage of height. Up to the level of this cornice the walls are of uncoloured freestone, the work above, including the coves, balustrade, cariatide figures, and ceiling, being toned in brown colour. On the centre of the floor of this apartment is placed a vase in polished malachite presented by the Czar of Russia in 1893. Artificial lighting is effected by means of four lustre pendants.

DETAIL, SALLE-À-MANGER, HÔTEL DE VILLE, PARIS.

The Grande Salle-à-Manger is a very fine room, opening off the south end of the Salle des Fetes. Its dimensions are 20·25 metres by 14·50 metres by 8 metres, or 66½ feet by 47½ feet by 26 feet in height. The lining of the walls, the circular columns, pilasters, doors, &c., are all of unpolished oak, panelled and beautifully carved, and relieved occasionally with gilding.

The frieze and flat ceiling are apparently of plaster, but decorated in colour on a similar brown shade, as a ground, to that of the oak. A large mirror is placed at the end of the room opposite the axial line of this and the Salle des Fetes. The lunettes over the eight doorways are filled with paintings. The painted central panel of the ceiling symbolises allegorically the "Hymn of the Earth to the Sun," and those at the ends typify "Harvest" and "The Vintage": all are by Georges-Bertrand. Sculptured figures in white marble by Barrias, Falguière, and others fill the various niches round the walls of the room. The subjects are "Harvest," "Vintage," "Song," "The Chase," "The Peach," and "The Toast."

There are eight pendant electroliers. The natural lighting of this room is unfortunately inadequate, and prevents its decorations being seen to the best advantage in daylight.

Adjoining is the Salon Lobeau (15·50 metres by 10·75 metres by 8 metres). This room, together with the lobby connecting it with the Salons de Reception, has an oak-panelled dado

for a height of about 8 feet, and paintings covering the walls above. The latter are by Paul Laurens, and the subjects are scenes in French history—notably, the reception of Louis XVI. at the ancient Hotel de Ville in 1789. The ceiling is flat, panelled, and enriched with modelled ornament, coloured and gilt. The doors are of oak. In the four corners close up to the ceiling are pendant arc lamps; in the centre a pendant lustre electrolier.

The Salon de Reception (of Science, Art, and Letters), with its two arcaded subdivisions and gallery along the courtyard side, is possibly the most beautiful portion of the Hôtel de Ville. The arrangement of the plan lends in effect a sufficient air of mystery to give this room a special attractiveness and charm. The colour decorations, too, are perhaps more than usually fine in general scheme and design, with subjects for the paintings of great interest. The prevailing colours are browns and reds, with blue and gold enrichments. The walling, piers, and ceiling have their spaces filled with paintings by Bonnat, Galland, Lefebvre, Besnard, and other modern artists of France. The ceiling is flat but deeply coffered, panelled, and enriched; the arches spanning between the piers are semicircular. The doors are in oak with gilt enrichments. The fireplaces at the two ends of the apartments form the only portions uncoloured. These are of carved freestone relieved by inlay panels of red, green, and black marbles and oval-shaped centrepieces, in the upper part, of painted majolica ware.

Artificial lighting is effected by means of pendant lustre electroliers as in the other rooms, and there are open grilles above, in the ceiling, for ventilation.

The subjects of some of the more important paintings are as follows:—

Salon des Sciences (at eastern end)—

In centre of ceiling: "The Deification of the Sciences."
End panels of ceiling: "Meteorology" and "Electricity."
On walls: Physics, Botany, &c. and allegorical figures representing Air, Fire, Water, and the Earth.
In the frieze: "The Instruction of Science" and "its Glorification." Medallion portraits of great French scientists.

Salon des Arts (central)—

In centre of ceiling: "The Triumph of Art," allegorical, by Bonnat.
End panels of ceiling: "The Ideal" and "Truth."
On walls: Music, Dancing, Sculpture, Architecture, Painting, &c. Medallion portraits of Puget, Philibert Delorme (the architect), Poussin, and Rameau.

Salon des Lettres (at western end)—

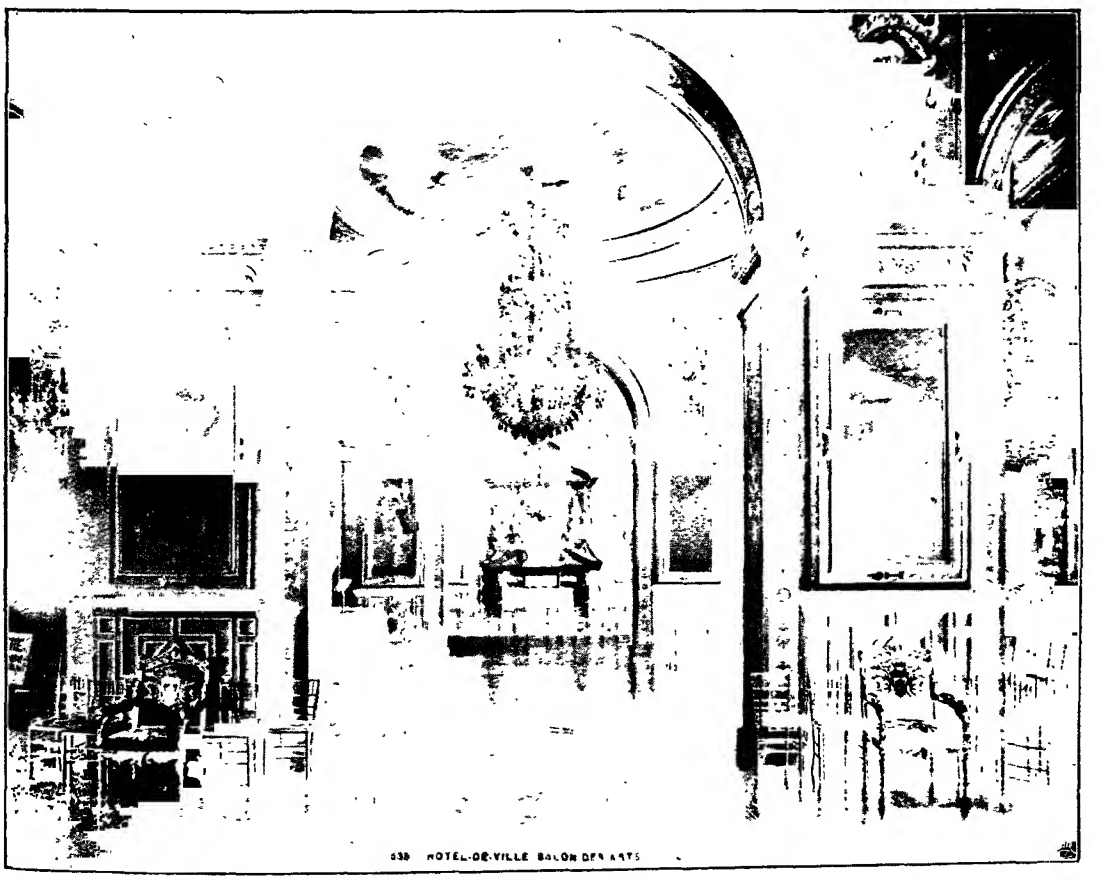
In centre of ceiling: "The Muses," allegorical.
End panels of ceiling: "Inspiration" and "Meditation."
On walls: Allegorical figures representing Philosophy, Poetry, Eloquence, History, &c.
In the frieze: "The history of writing" in ancient and modern times. Portraits of Molière, Victor Hugo, Michelet, and Descartes.

The general colour decorations are by Guifard. The size of this apartment, exclusive of the side gallery, is 31 metres by 15 metres by 8 metres, or 101½ feet by 49 feet by 26 feet.

The Galerie des Fetes, 46·50 metres by 5 metres by 8 metres, which occurs along the north side of the Salons, has a barrel ceiling divided transversely by ribs in continuation of the pilasters

on walls and piers. The colour treatment is mainly in browns, red, and gold—both the general decorations and paintings being the work of Galland. The subjects include the Arts—Architecture, Painting, Sculpture, &c.—and technical sciences or handicrafts, such as metal-working, pottery making, masonry, &c. The doorway at the end of the gallery which opens off the Prefects' Staircase is of finely carved stone, uncoloured, and the doors themselves are of oak.

The Prefects' Staircase is the second finest in the building; it occupies a space of 14 metres by 10 metres (46 feet by 32½ feet), the stairs themselves being about 3·25 metres in width and of white marble. The balustrade is of bronze, of bold leaf and floral design



SALON DE RÉCEPTION, HÔTEL DE VILLE, PARIS.

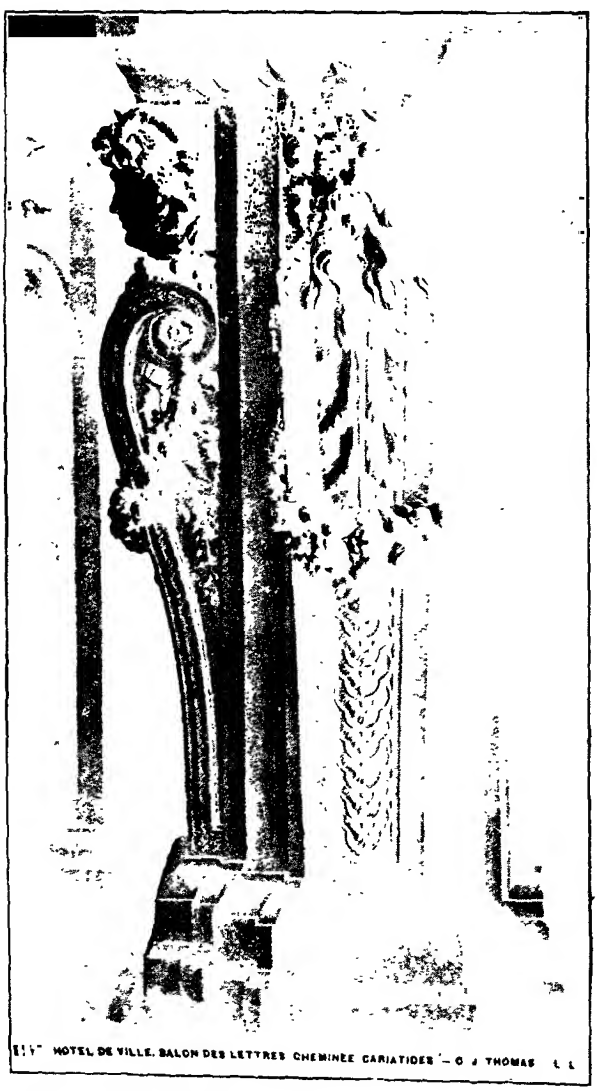
and fine workmanship, the standard electroliers being of bronze also. The walls are of freestone, uncoloured—the floors and landings of coloured marbles. The ceiling and its large coves and lunettes over the doors are also of stone, and have received decorative paintings—all by Puvis de Chavannes. The subject of the large central ceiling panel appears to be "Victor Hugo offering his Lyre to the City of Paris," while others are "Patriotism," "Urbanity," "Charity,' "Industry," "Artistic Ardour," &c. The doors opening off the landings are of oak picked out with gilding.

In the ground-floor vestibule of this staircase is a bronze equestrian statue, with figure representing a herald-at-arms in fifteenth-century costume holding aloft a chandelier—a remarkable piece of work by Fremiet, the sculptor (1885); and against the wall in the north-

west corner is a memorial bust, in marble, of Theodore Ballu, the architect of the building, by E. Barrias, with a bronze figure against a pedestal by Coutan.

There are sculpture groups at the various stages of the staircase representing "Security," "Justice," "Instruction," &c.

The Cabinet of the Prefects (15 metres by 10·50 metres) is of great beauty and magnificence. The wall surfaces are filled with paintings, and the furniture is in harmony with the high character of the decorations.



DETAIL OF CHIMNEY-PIECE, SALON DES LETTRES, HOTEL DE VILLE, PARIS.

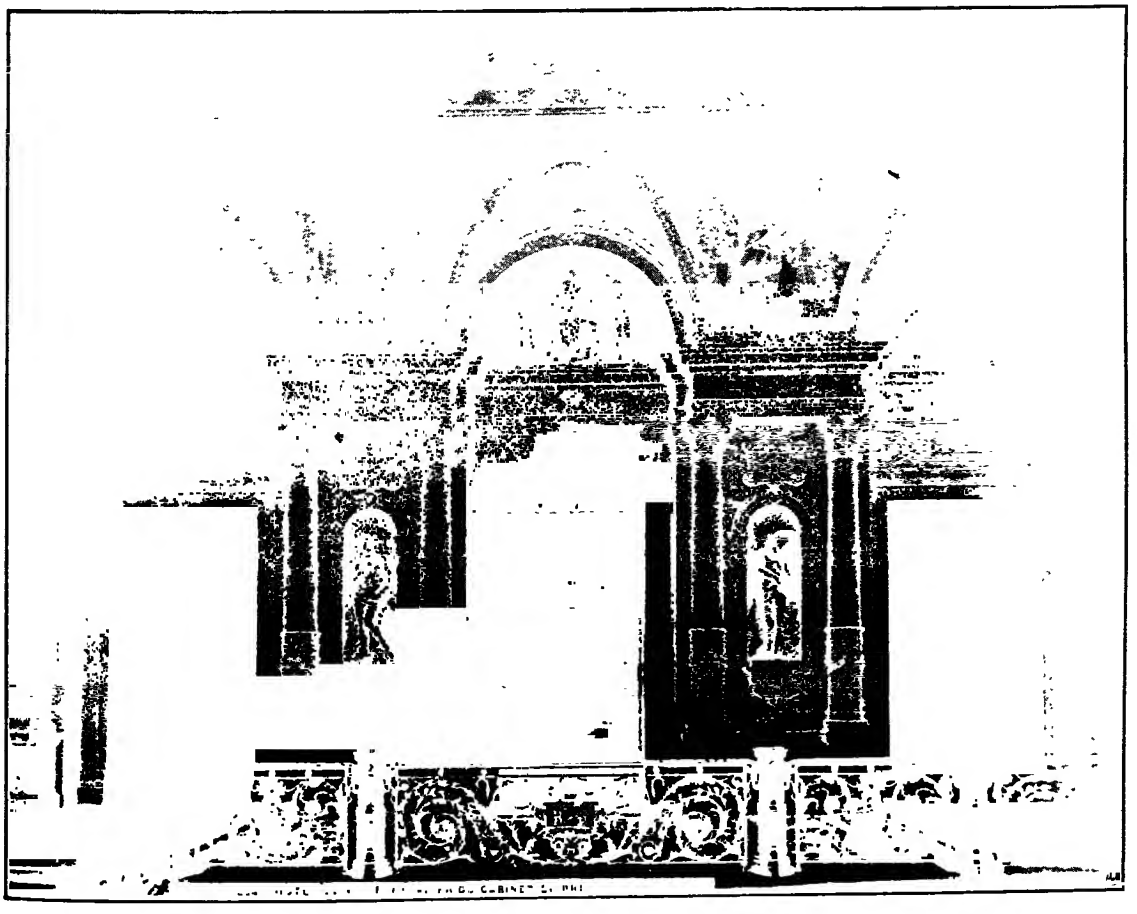
The corridor between the Prefects' Staircase and the Municipal Council Chamber has walls and ceiling of uncoloured freestone, the floor of mosaic, and windows filled with heraldic stained glass containing the names of civic worthies of the city.

The Municipal Council Chamber occupies a position in the centre of the principal façade, looking on to the Place de l'Hotel de Ville, and, like the reception apartments, is situated on the first floor. It is a rectangular room with a flat ceiling, and its dimensions are 21·50 metres by 13·75 metres by 8·40 metres, or 70½ feet by 45 feet by 27½ feet. The Presidential "tribune" is at the north end, and the general seating for the councillors (101 in all) is arranged to face it on a partial radial principle.

The President's seat occupies the centre of the upper stage of the "tribune," with that of the Vice-President on his right hand and two secretaries on either side. On the same line with these, but separated by a short space, sit the official stenographers, two on each side. The centre of the platform immediately in front of the President is used by the orator, who leaves his seat to speak from this position. There are three steps up to this level, five up to that of the stenographers, six to the secretaries, and seven to the President. The councillors sit at desks (fixed) which, with a few exceptions, take two members each, and have lock-up compartments with lifting cover and the name of member attached, and each a *portfolio blotter* with stiff covers to hold loose papers and for writing. The chairs are cane-bottomed and movable, with arms and back slightly padded and upholstered in leather. Each row of desks rises one step (about five inches) above that next below, from the front to the back of the room; and as each seat adjoins a longitudinal gangway, it becomes easy for members to pass up and

down the room. There are in addition passage-ways, divided off along the two side walls, into which the councillors may pass without undue prominence when entering or leaving the room. The upper part of these divisions, together with that of the gangway screen behind the President's "daïs," is of plate glass framed in metal, no doubt arranged for the avoidance of draughts.

The two Prefects sit at a table in the front of the general seating and opposite the President of the Chamber, and with them the Director of Public Works and other chief officials. Other officials occupy the tables against the side walls.



THE PREFECTS' STAIRCASE (UPPER STAGE), HOTEL DE VILLE, PARIS.

The public occupy the gallery at the back of the room, and privileged persons and the Press the gallery behind the President. Both are reached from the main "municipal" staircases adjoining.

The walls of the Council Chamber are lined to a height of eight feet or so with panelling in unpolished mahogany relieved by gilding. The doors (of which there are three opening into the corridor along one side), gallery fronts, furniture, and woodwork generally are of mahogany. The colour treatment of the walls and ceiling is in browns, red, blue, and gold; the windows have stained glass. The floor throughout is covered with cork carpet or linoleum. As previously mentioned, special care has been taken in the arrangements for ventilating this apartment.

Opening off the south end of the Council Chamber are lobbies leading to the "Salle de la Commission du Budget" (finance committee), the "vestiaire," or cloakroom, intervening. This committee room is 13·75 metres by 7 metres—a fine apartment with oak doors and panelled dado, with paintings by Détaille filling the wall spaces above. The floor is carpeted, and the windows are filled with stained glass. The table is of long shape with semicircular ends. The offices of the secretary and others are adjoining.

Various other committee rooms are planned in close proximity to the Council Chamber, ranged round the central courtyard.

Opening off the north end of the Council Chamber is the members' refreshment buffet, and beyond that the Municipal Reference Library, containing about twenty thousand volumes of administrative works, to which access is readily gained by members during sittings of the Council. There are oak bookcases round the walls for their full height, and an intermediate gallery with oak balustrade, for access to the upper part, reached by an oak spiral staircase. The ceiling is coffered and decorated in colour, a painting occupying the large central panel.

Near by are the rooms of the President of the Council and his secretary.

Between the west side of the central courtyard and the Council corridor are two staircases and vestibules most conveniently planned to serve this important legislative centre of the building. They communicate with other municipal offices on the floors above, and on the ground floor have corridors connecting with the reception vestibules on the east side, and the Salle des Prévots beneath the Council Chamber.

The Salle des Prévots is 31 metres by 13·50 metres by 8 metres, or 101½ feet by 44 feet by 26 feet, divided by two rows of columns into seven bays in the length and three in the width, vaulted above. The columns are of marble, or of an artificial composition similar in appearance, and are polished, while the walls and vaulting are of uncoloured freestone. Polished red marble panels are set in the walls carved with the names of the Prévots and Prefects of Paris. The entrances open off from the covered carriage-ways—one at each end—the doors themselves being of oak with bronze hinges. The floor is of coloured marbles, and a number of bronze lamp standards rest thereon.

The principal library is on the top floor of the building, on the east side, above the Salle des Fetes. It is rectangular in plan, and occurring as it does in the roof portions of the sloping sides appear in the room with returned ends. The sides of the roof are panelled in oak with the central portion flat and glazed beneath a continuous skylight by means of which the room is lighted. The positions of roof principals are marked by the crossing of segmental-shaped transverse ribs encased in wood. The size of the apartment is 45·50 metres by 13 metres by about 10 metres in height. Bookcases line the walls up to the springing of the roof: these are of oak, as is also an intermediate gallery which circumscribes the room, with oak spiral staircases for access thereto at each angle of the room. There are bronze lamp standards ranged at intervals round the gallery on the main supports of the balustrade. The books on the lower floor are railed off by lengths of iron railing, about four feet away, with openings at intervals. The general area of the room is occupied by tables for readers, with lamp standards ranged down the centre of the tables. The desk of the librarian in charge is on a platform slightly raised above the floor. The system of a "card catalogue" appears to be in use. The floor is of polished oak, with the usual gratings admitting fresh air, and four electric fans. The ventilation appears to be very good, though the fans make a somewhat disturbing noise. In the centre of the library is placed a large plaster model of the Hotel de Ville. The books are almost entirely of an administrative character, and at present number about fifty-one thousand volumes. The public have the use of the library by obtaining a permit to do so from the Prefect.

The Caisse Municipale (Bank) is on the ground floor on the north side of the building (towards the Rue de Rivoli), and here is made payment of interest to holders of municipal shares; on loans of money to the municipality when large expenditures are projected, &c. Adjoining are the necessary clerical offices, with a series of serving counters opening into the public room. The private offices of the senior officials are conveniently arranged adjoining. Beneath in the basement is the office for the payment of municipal rates and taxes and accommodation for officials of that department. Behind is the record store of the bank, storage for title deeds, &c.

ANNEXES.—As usually happens, the requirements have outgrown the accommodation provided in the Hôtel de Ville. Several departments, including those of education and municipal works (roads, sewers, &c.), are housed in separate buildings outside.

NOTES ON THE COLOUR DECORATION AND SCULPTURE.

In some interesting notes on this subject which appeared in *The Builder* some years ago it was pointed out that the decorations at the Hôtel de Ville, commenced in 1887, were being arranged for by a committee of experts appointed for that purpose by the Municipal Council. The aim of the committee appears to have been to make use of the best available talent to produce a decorative scheme, representative of the art of the time in which it was produced, for the instruction and pleasure of succeeding generations of citizens. One notices accordingly much variety in the pictorial decorations, and no attempt to follow a particular style or "school." The whole, however, being in its way excellent, it would perhaps be difficult to say whether a finer effect would have resulted from a treatment more closely illustrative of one artistic phase. Both the painting and the sculpture much impress one with the natural æsthetic genius of the French nation. Paintings applied to the walls and ceilings by considerably over a hundred artists are to be found in the great suite of reception-rooms.

As mentioned before, although even now unfinished, nearly 3,600,000 francs have already been expended on painted decorations and sculpture since the building was completed.

(*To be continued.*)

9, Conduit Street, London, W., *8th Dec.* 1906

CHRONICLE.

THE NOVEMBER EXAMINATIONS.

The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the provincial centres mentioned below on the 5th and 6th November. One hundred and eighty-eight candidates were admitted, and claims for exemption from sitting were allowed to the number of fifty-seven. The remaining 131 were examined, with the following results :—

District	Number Examined	Passed	Relegated
London	62	44	18
Birmingham	7	6	1
Bristol	8	5	3
Cardiff	6	5	1
Leeds	16	9	7
Manchester	20	13	7
Newcastle	12	9	3
	131	91	40

The passed candidates, with those exempted—making a total of 148 altogether—are as follows :—

ADAMS : John Brittain ; c/o Elijah Jones, Esq., 10 Albion Street, Hanley, Staffs [*Master* : Mr. Elijah Jones].

ADAMS : Percy Joyce ; West Lodge, Palmerston Road, Buckhurst Hill, Essex [Chigwell Grammar School].

ASHFORD : Harry Albert ; "Sunnymead," Hoddesdon, Herts [*Master* : Mr. Wm. Clarkson].

BACON : George Whitaker ; "Osgathorpe," South Park Hill Road, Croydon [*Master* : Mr. F. Wheeler *].

BARKER : George Frederick ; 417 Park Road, Soho, Birmingham [*Master* : Mr. A. J. Dunn *].

BEESLEY : Arthur Campbell ; 41 Broomgrove Road, Sheffield [*Master* : Mr. Charles Hadfield *].

BESANT : Hubert Saxton ; 44 Darenth Road, Stamford Hill, N. [*Master* : Mr. R. A. Briggs *].

BLAKE : Frank ; "Ritherdon," 12 Half Moon Lane, Herne Hill, S.E. [*Masters* : Messrs. Harrison * & Ward *].

BONIFACE : Charley Frank ; 54 Station Road, Petersfield [*Masters* : Messrs. W. F. Unsworth * & Son].

BREWERTON : Frank Asquith ; 20 Mayfield Road, Whalley Range, Manchester [Hulme Grammar School].

BREWIS : Humphrey ; 86 Cromwell Road, South Kensington, S.W. [*Master* : Mr. W. E. Clifton *].

BURN : Walter ; Alôn Lodge, Forest Road, Rangoon, Burma [St. Mark's School, Windsor].

BUSHILL : Percy Norman ; 14, Park Avenue, Soho Hill, Birmingham [Birmingham University].

BUTCHER : Edmund Herbert ; 1 Fetherston Road, Stanford-le-Hope, Essex [*Masters* : Messrs. Barrett & Driver].

CAMPBELL : Duncan Alexander ; The Old House, Grassendale Park, Liverpool.

CAREY : Percival James ; "Coverdale," Westmoreland Road, Bromley, Kent [Oundle School].

CATHCART : William D'Arcy ; c/o James Platt & Co., 77 St. Martin's Lane, W.C. [*Master* : Mr. Wm. Black *].

CAWTHORNE : Harry Beaumont ; Luton House, Mexborough [Barnsley Grammar School].

CHAMBERLAIN : Harry Samuel ; 91 St. Andrew's Road, Southsea [*Master* : Mr. G. C. Vernon-Inkpen].

CHAMBERLAIN : Thomas Chandless ; Northumberland House, Manor Road, Forest Hill, S.E. [Polytechnic, Regent Street].

CHANDLER : Harold Frederic ; 22 Hillside Gardens, Highgate, N. [*Masters* : Messrs. Bell, Withers, & Meredith].

CHANNON : Guy Dunstan ; Arncliffe, Malton, Yorks. [*Master* : Mr. C. H. Channon *].

CHEERS : Wilfroy Anson ; Heriotdene, Waldegrave Park, Twickenham [*Master* : Mr. Cheers].

CHEESEWRIGHT : Gostwycke ; Rawmarsh Hill, near Rotherham, Yorkshire [*Masters* : Messrs. J. D. Webster * & Son].

CHERITON : William George Lloyd ; 20 Mount Ephraim Lane, Streatham, S.W. [Dulwich College].

CLARK : Sidney ; 3 Thornton Road, Stanwix, Carlisle [*Master* : Mr. G. Dale Oliver *].

CLOUGH : William, jun. ; Whitley Head, Steeton, near Keighley, Yorks. [*Masters* : Messrs. Moore & Crabtree].

COATES : Harry Bertram ; Council Offices, Altofts [*Master* : Mr. W. Wrigley *].

COATES : William Victor ; c/o Messrs. Bentley & Hall, Old Market Place, Grimsby [*Masters* : Messrs. Bentley & Hall].

COLLIN : Bertie Phillipps ; Thruxton Rectory, Andover [Haileybury College].

COOK : Henry Thomas ; Colville, Cavendish Road, Highams Park, Chingford [*Master* : Mr. S. T. Adams].

CORNELL : Albert Ernest ; "Sidway," Oldridge Road, Perry Barr, Birmingham [*Master* : Mr. W. F. Edwards].

COX : Maurice James ; Ramsden Cottage, Ramsden Road, Godalming, Surrey [*Master* : Mr. J. H. Norris].

CRELLIN : Ewart ; 69 Parliament Street, Ramsey, Isle of Man [*Master* : Mr. W. Horrocks].

CRUICKSHANK : Herbert William ; 22 Powis Terrace, Aberdeen, Scotland [*Master* : Mr. A. Marshall Mackenzie,* A.R.S.A., LL.D.].

DALZIEL : John George ; Garfield House, St. Paul's Road, West Hartlepool [*Masters* : Messrs. Harry Barnes * & C. F. Burton].

DAVIDSON : Oswald Ferguson ; 31 Eldon Street, Newcastle-on-Tyne [*Masters* : Messrs. Davidson & Phillipson].

DAVIES : William Frederick ; Brook House, Sanghall Road, Chester [Liverpool University].

DAVIS : Oscar Reed ; 42 Osnaburgh Street, Regent's Park, N.W. [Polytechnic, Regent Street].

DAVIS : Philip Wolf ; 7 Hyde Park Square, W. [London University].

DIGGLE : William Wrigley ; 19 Cornwall Terrace, Regent's Park [Harrow School].

ECKERSLEY : Walter Roland ; Heads Nook, Carlisle [*Master* : Mr. J. Forster].

EDWARDS : Albert Lionel ; 26 Griffiths Road, Wimbledon, S.W. [*Master* : Mr. J. R. Harding].

EILOART: Ronald Edward; 17 Elsworthy Road, N.W. [Harrow School].
FARMER: Alexander Crosbie; Eller How, Acrefield Road, Prenton, Birkenhead [Warbreck College, Aintree].
FAWCETT: George Herbert; 65 Wykeham Street, Scarborough [*Master*: Mr. Frank A. Tugwell *].
FLETCHER: James Herbert; Flowery Field House, Hyde, Cheshire [*Master*: Mr. G. H. Willoughby *].
FOWLER: Hollis Charlie; 10 Vernon Square, Ryde, I.W. [*Master*: Mr. J. W. Walmisley *].
GARRETT: Sidney Colston; 14 Windlesham Road, Brighton [*Master*: Mr. T. Garrett].
GRANT: John Duncan; 30 Union Road, Inverness [*Master*: Mr. John Robertson].
GREENALL: Benson; 650 Ashton Old Road, Openshaw, Manchester [*Master*: Mr. G. H. Willoughby *].
GRESSWELL: Hugh; 169 Hugh Road, Balham, S.W. [*Master*: Mr. Howard Goadby].
HALL: Charles Thornton; 118 Strathnairn Street, Roath, Cardiff [*Master*: Mr. G. A. Birkenhead].
HALL: Robert Brearley; c/o Mr. R. Hall, Highcliffe House, Batley [*Masters*: Messrs. Holtom & Fox].
HARRIES: John James; 2 Eaton Crescent, Swansea [*Master*: Mr. F. B. Smith].
HARRIS: Leslie Youngman; Clinton Terrace, The Park, Nottingham [Gresham's School, Holt].
HOWELL: John Allnutt; 35 Southmoor Road, Oxford [*Master*: Mr. E. W. Alfrey].
HOWORTH: Frederick; 11 Nelson Street, St. Anne's-on-Sea, Lancs [*Masters*: Messrs. Sames & Green].
HUNT: Spencer Grey Wakeley; 5 Lancaster Road, Brighton [*Master*: Mr. Simeon Hunt].
INGLETON: Delamark Frank; 41 Machen Place, Cardiff [*Master*: Mr. E. H. Bruton *].
JACK: G. Wilfred; 66 Burma Road, Clissold Park, N. [Oldfield Road School].
JACKSON: John Henry; Woodlands View, Horsforth, Leeds [*Master*: Mr. A. E. Kirk *].
JENKINS: Edward Geoffrey; 281 St. Ann's Road, South Tottenham, N. [*Master*: Mr. H. G. Crothall].
JOHNSON: Standfield; Rock Mount, King's Heath, Birmingham [*Master*: Mr. Wm. Haywood].
JONES: Walter Sydney; 21 Kempshott Road, Streatham Common, S.W.
JOYNSON: Leonard Charles Billingsley; Albert House, King's Hill, Wednesbury, Staffs [*Masters*: Messrs. Joynson Bros.].
KELLY: Henry; 11 Myddleton Street, Carlisle [*Masters*: Messrs. Pickering & Crompton].
KING: Henry Foster; 44 Weltje Road, Hammersmith, W. [*Master*: Mr. Fred Rowntree *].
KNOWLES: Benjamin; 10 Fernhill Road, Bootle [*Masters*: Messrs. Medcalf & Medcalf].
LAWRENCE: Idwal Thomas; Maes-yr-haul, Trealaw, Rhondda, South Wales [Taunton School].
LAWSON: Wilfrid; 41 Woodbine Street, Gateshead-upon-Tyne [*Master*: Mr. J. G. Crone].
LETHEREN: William Harding; Blenheim House School, Fareham [*Master*: Mr. H. Frost].
LOMAX: Percy Hirst; 201 Derby Street, Bolton, Lancs. [*Masters*: Messrs. Stead & Morris].
LORN: Frank; Gartchonzie, Major's Loan, Falkirk, N.B. [*Master*: Mr. Thomas M. Copland].
LOVELUCK: Edward; Sunnyside, Bridgend, Glam. [*Master*: Mr. P. J. Thomas].
LYON: Maurice; "Home Croft," 8 Bennett's Hill, Oxton, Birkenhead [Birkenhead School].
LYTH: Alfred; Blue Stone House, High Lane, Burslem, Staffs [*Master*: Mr. Reginald T. Longden].
MACFARLANE: George Gordon; 41 Kersland Terrace, Hillhead, Glasgow [*Master*: Mr. John J. Burnet, A.R.S.A.].
MACKENZIE: Roderick; Estate Office, The Gardens, Lochlinchart, Ross-shire, N.B. [*Master*: Mr. W. C. Joass].
McLACHLAN: Charles; 23 Clarendon Road, Lewisham, S.E. [St. Dunstan's College, Catford].
MACLEAN: Neil Alexander Davidson; 39 Royal Street, Gaurock, Scotland [*Masters*: Messrs. Salmon, Son, & Gillespie *].
McNEIL: William Wallace; 6 Hazel Bank, Blackburn [*Masters*: Messrs. Simpson & Duckworth].
MALONE, William Adolphe; Entroya, Fortwilliam Park, Belfast [*Masters*: Messrs. Hobart & Heron].
MARLES: Charles Wright; Hill Side, Sketty, R.S.O., Glam. [*Master*: Mr. Glendinning Moxham *].
MARSHALL: Hector Charlton; 5 Kensington Terrace, Sunderland [*Master*: Mr. John Eltringham].
MARTINDALE: Henry William; Harrold Dene, Princess Road, Bournemouth, W. [*Master*: Mr. T. Stevens *].
MARTYN: Laurence Dunmore; Petergate, Tiverton [Blundell's School, Tiverton].
MATHER: Samuel Pochin; Mill Hill School.
MAUGHAN: Joseph Robinson; Elvaston Road, Hexham-on-Tyne [*Masters*: Messrs. Liddle & Browne].
MAYHEW: George Melbourne; Arlesey Vicarage, Hitchin, Herts [Hitchin Grammar School].
MONTENIUS: Louis Emslie; 46 Holmbush Road, Putney, S.W. [*Masters*: Messrs. Brown & Barrow *].
MOODIE: John; 63 Eastwood Road, Goodmayes, Essex [Wilson College, Stamford Hill].
MORGAN: Hugh Bernard Townshend; 38 Lingfield Road, Wimbledon [*Master*: Mr. Reginald Blomfield *, A.R.A.].
MORLEY: Harold Hudson; 56 Tranmere Road, Earlsfield, S.W. [*Masters*: Messrs. Palgrave & Co.].
MOTT: Harold Fenwick; 9 Addison Road, Plymouth [Wellington College].
NASH: Herbert Mason; Thorncroft, Hale Road, Farnham, Surrey [*Masters*: Messrs. Niven * & Wigglesworth *].
NIGHTINGALE: Frederick Bayliss; 47 West Side, Wandsworth Common, S.W. [Royal College of Art].
O'DWYER: Valentine; 9 Hyde Park Terrace, Leeds [*Masters*: Messrs. Chorley * & Connon *].
ORDISH: Roland; 1 Bailey Street, Derby [*Master*: Mr. H. T. Sudbury].
PATEY: Percy Pettman; care of Messrs. Nicholson & Hartree, Offa Street, Hereford [*Masters*: Messrs. Nicholson * & Hartree].
PEERLESS: Herbert Read; "Sanstead," Reigate [University College School].
PELL-ILDERTON: Percy; "Saxonholme," Higher Openshaw, Manchester [*Masters*: Messrs. Joseph Stott & Sons].
PUSILL: Alfred Victor; Mount Pleasant, Deganwy, near Llandudno, North Wales [*Masters*: Messrs. Geo. Roberts & Bros].
PYM: Henry Osney Melville; 44 Parliament Street, Nottingham [*Masters*: Messrs. Brewill * & Baily *].
QUEKETT: John; Usan, Orwell Park, Rathgar, Dublin [*Master*: Sir Thomas Drew *, P.R.H.A.].
RAVENSCROFT: Martin; Brathay, Oxton, Cheshire [Rugby School].
RAYMENT: Albert Hugh; 27 Claremont Road, Cricklewood, N.W. [*Master*: Mr. Edwin J. Stubbs].
REVIE: Archibald; 82 Flowerhill Street, Airdrie, Scotland [*Masters*: Messrs. G. Arthur & Son].
RHIND: Walter; 41A Quinton Street, Earlsfield, S.W. [*Masters*: Messrs. D. & G. R. McMillan].
RICHARDS: Francis Ashburner, B.A. Oxon.; 19 Wetherby Gardens, S.W. Westminster School].
RIDLEY: Basil White; care of Arthur Marshall, Esq., King Street, Nottingham [*Master*: Mr. Arthur Marshall *].

RIDLEY: Geoffrey William; Edgmont, Parkside, Nottingham [*Master*: Mr. Arthur Marshall *].

ROSLING: Reginald Peregrine; 1 Kirklees Villas, Ashley Court Road, Ashley Hill, Bristol [Merchant Venturers' College].

RUSSELL: Robert Tor; 11 Gray's Inn Square, W.C. [*Masters*: Messrs. Russell * & Cooper *].

RUTTER: William Arthur; 1 Princes Street, Roath, Cardiff [*Master*: Mr. William H. Scott].

SAWYER: Henry Scott; 14 Howard Place, Carlisle [*Master*: Mr. J. H. Martindale].

SEDDON: Joseph; 44 Langdale Road, Thornton Heath, Surrey [*Master*: The late John P. Seddon *].

SHAPLAND: Henry Percival; 45 Canonbury Square, Islington, N.

SHEARS: Reginald; 38 Anerley Road, Westcliff-on-Sea [*Master*: Mr. Edward Wright].

SHEFFIELD: Herbert William; Harcourt Square, Earls Barton, Northamptonshire [*Masters*: Messrs. Sharman & Archer].

SHEPHERD: Harold Joseph; Ivy Cottage, Darnall, Sheffield [*Masters*: Messrs. Potter & Sandford].

SHERWIN: Cecil Thomas; "Westbrook," Lichfield Road, Stafford [*Master*: Mr. J. Hutchings *].

SMITH: Walter James; "Belmont" Bentinck Road, Newcastle-upon-Tyne [*Master*: Mr. Charles S. Errington *].

STEWART: George Muir; 308 Possil Road, Glasgow, Scotland [*Master*: Mr. James Cowie].

STONE: John Thomas; 61A Credenhill Street, Streatham, S.W. [*Master*: Messrs. F. Chown & Co.].

STUART: Alexander Davidson; 1 Richmond Road, Long Lane, East Finchley, N. [*Master*: Mr. G. M. Watson].

SUTCLIFFE: John; 42 St. Andrews Road South, St. Anne's-on-the-Sea [*Master*: Mr. H. E. Kelvey].

SWANN-WATTS: Ernest; 3 St. David's Road South, St. Anne's-on-the-Sea [*Master*: Mr. Wade].

SYKES: Wilfred Elsworth; Oakhurst, Cottingham, E. Yorkshire [*Master*: Mr. J. M. Dossor *].

TAPPING: Frank; Bedgrove House, Aylesbury [*Master*: Mr. Mannings].

THOMERSON: Harold Albert; 46 Kenninghall Road, Clapton, N.E. [*Master*: Mr. W. A. Finch].

TIGAR: Leonard; "Heathfield," 33 Languard Road, Southampton [*Master*: Mr. L. G. Duncan].

TURNER: Thomas Edwin; Selwyn Lodge, Solihull, Warwickshire [*Masters*: Messrs. Bateman & Bateman *].

VIOLET: Matthew Thomas; 27 Lichfield Road, Stafford [*Master*: Mr. J. Hutchings *].

WALDROW: Frank; Haslemere, St. Mark's Road, Bush Hill Park, Enfield, N. [*Master*: Mr. Frank Bethell].

WALL: Roland Leslie; 29 Beechcroft Road, Upper Tooting [University College].

WALLER: Augustus George; 32 Grove End Road, N.W. [*Master*: Mr. Thackeray Turner *].

WALLER: Thomas Wright; 30 York Road, Edgbaston, Birmingham [*Master*: Mr. M. O. Type *].

WELCH: Herbert Archibald; 47 Albert Street, Regent's Park, N.W. [*Master*: Mr. T. B. Whinney *].

WILDIN: Edwin George; Hawthorn Bank, Stoke-on-Trent [*Master*: Mr. A. R. P. Piercy].

WILLCOX: Edward Wilberforce; 39 Belvoir Road, Montpelier, Bristol [*Masters*: Messrs. La Trobe * & Weston *].

WILLIAMS: Enoch; Ael-y-Bryn, Bon-y-maen, near Swansea [*Master*: Mr. Glendinning Moxham *].

WILLIAMS: Stanley; 11 Springfield, Upper Clapton, N.E. [*Masters*: Messrs. Still, Wheat, & Luker].

WILLIS: William Elias; Allanson Villa, Cotham Road South, Bristol [Merchant Venturers' College].

WILSON: John; 16 Bedford Place, Russell Square, W.C. [*Masters*: Messrs. Henderson & Hall, Sunderland].

WINTER: Douglas Charles: "Ormiston House," St. Helen's Road, Westcliff-on-Sea [*Master*: Mr. H. Leon Carbuche].

WINTLE: Arthur; Kingsdown, Twickenham, S.W. [*Masters*: Messrs. Banister Fletcher, & Sons *].

WRIGLEY: Thomas; "Vetusholme," St. Anne's Road East, St. Anne's-on-the-Sea, Lancashire [*Masters*: Messrs. Charles Heathcote * & Sons].

The asterisk (*) denotes Members of the Institute.

Intermediate.

The Intermediate Examination qualifying for registration as *Student R.I.B.A.* was held in London and the undermentioned provincial centres on the 5th, 6th, 8th, and 9th November. One hundred and forty-four candidates presented themselves and were examined, with the following results:—

	Number Examined	Passed	Relegated
London	93	40	53
Bristol	13	8	5
Dublin	2	2	0
Leeds	13	5	8
Manchester	16	7	9
Newcastle	7	3	4
	144	65	79

The sixty-five successful candidates have been registered as *Students R.I.B.A.* Their names, which follow, are given in order of merit, as placed by the Board of Examiners:—

AYRE: David Wickham [*Probationer* 1905]; 71 Patrick Street, Cork, Ireland [*Masters*: Messrs. W. H. Hill * & Son].

IXER: Sydney Henry Howard [*Probationer* 1902]; 71 Sisters Avenue, Clapham Common, S.W. [*Master*: Mr. J. Ernest Franck *].

DENMAN: John Leopold [*Probationer* 1904]; 8 Clifton Terrace, Brighton [*Master*: Mr. S. Denman].

BODDINGTON: Henry, jun. [*Probationer* 1905]; Pownall, Wilmslow, Cheshire [*Masters*: Messrs. Charles Heathcote * & Sons].

GREEN: Edward Rodwell [*Probationer* 1904]; Bloomsbury House, Queen Square, W.C. [*Masters*: Messrs. Slatyer & Cosh].

NEAVE: Stacey Arthur [*Probationer* 1904]; Bloomsbury House, 10 Queen Square, W.C. [*Masters*: Messrs. Kent * & Budden *].

MERRISON: Charles Redford [*Probationer* 1900]; 26 Maury Road, Stoke Newington, N. [*Master*: Mr. J. T. Lee *].

HUNTER: George Edward [*Probationer* 1905]; Wentworth, Gosforth, Northumberland [*Masters*: Messrs. Cackett * & Burns-Dick *].

WRAY: Ernest Warneford [*Probationer* 1905]; 40 Ovington Street, Lennox Gardens, S.W. [*Master*: Professor Beresford Pite *].

MANN: William Robert [*Probationer* 1902]; 8 Gordon Avenue, Leicester [*Masters*: Messrs. Goddard * & Co *].

DYKE: David Nicholas [*Probationer* 1905]; 67 Kennington Oval, S.E. [*Master*: Mr. Walter Pott *].

RICHARDSON: John Blythe [*Probationer* 1904]; West View House, Shotley Bridge, County Durham [*Master*: Mr. W. L. Newcombe *].

WIDDOWSON: Arthur Reginald [*Probationer* 1893]; 42 Glenfield Road, Leicester [*Masters*: Messrs. Blackwell & Thomson *].

HALLAS: Harold Wimpenny [*Probationer* 1904]; Ivy Lodge, Trinity Street, Huddersfield [*Master*: Mr. Joseph Berry].

CLOUX: Frank Louis Whitmarsh [*Probationer* 1906]; 66 Beckwith Road, Herne Hill, S.E. [*Master*: Mr. Walter Pott *].

HEALEY: Francis Hurst [*Probationer* 1901]; 145 Wilmer Road, Heaton Bradford, Yorks [*Masters*: Messrs. T. H. & F. Healey].

MASON: Frederick Charles [*Probationer* 1904]; 35 St. Mildred's Road, Lee, S.E. [*Master*: Mr. R. Langton Cole *].

LOUW: Wynand Hendrik [*Probationer* 1905]; c/o T. J. Louw, Esq., P.O. Paarl Station, Cape Colony [*Master*: Mr. E. Seeliger].

SAVAGE: Hubert, [*Probationer* 1900]; 65 Hilldrop Crescent, Camden Road, N. [*Master*: Mr. E. Harding Payne *].

MARTIN: John Gray [*Probationer* 1903]; 249 Park Road, Oldham, Lancs [*Master*: Mr. Thomas Hilton].

DAVIDSON: John Adam [*Probationer* 1905]; "Avoca," Kensington Road, Knock, Co. Down, Ireland [*Masters*: Messrs. Young & Mackenzie].

SELLECK: George Brooking [*Probationer* 1903]; 2 Green Bank, Plymouth [*Master*: Mr. B. Priestley-Shires *].

WHITE: Oswald [*Probationer*]; 23 Bristol Road, Edgbaston, Birmingham [*Master*: Mr. Atkinson].

WARNHAM-TICKLE: Arthur George [*Probationer* 1903]; 68 Linden Avenue, Willesden, N.W. [*Master*: Mr. Max Zimmermann].

BRAZIER: Frederick Henry [*Probationer* 1904]; Station Road, Addlestone [*Master*: Mr. H. Goadby].

FLEMING: Herbert Sidney [*Probationer* 1904]; 34 Thanet Road, Erith, Kent [*Master*: Mr. W. Egerton].

FULTON: Andrew Wilfrid [*Probationer* 1902]; 4 Percy St., Liverpool [*Masters*: Messrs. Haigh & Thompson].

HIGGINS: William Thomas [*Probationer* 1904]; Hanslope, Stony Stratford, Bucks [*Masters*: Messrs. Law & Harris *].

MUNT: Francis Edwin Spencer [*Probationer* 1904]; Linkfield House, Fontenoy Road, Balham, S.W. [*Master*: Mr. F. E. Williams *].

MOORE: Ernest Josiah Edwards [*Probationer* 1904]; 86-7 Dock Street, Newport, Mon. [*Masters*: Messrs. Habershon,* Fawckner, & Co.].

ALLEN: John Gordon [*Probationer* 1902]; Dashmonden, Holmedale Road, West Hampstead [*Master*: Mr. A. Burnell Burnell *].

BARGMAN: Robert Frederick [*Probationer*]; 16 Essex Street, Strand, W.C. [*Masters*: Messrs. Bargman & Benison].

BEVIS: Richard Henry Percy [*Probationer*]; 191 South Lambeth Road, S.W. [*Master*: Mr. C. W. Bevis *].

BOSS: Albert Henry [*Probationer* 1904]; 108 Sewardstone Road, Victoria Park, N.E. [Architectural Association Day School].

CHRISTIE: Harold Hutton [*Probationer* 1901]; Stanley Mount, Anfield, Liverpool [*Master*: Mr. Arthur Keen *].

COMMIN: Frederick William [*Probationer*]; 7 Bedford Circus, Exeter [*Master*: Mr. F. J. Commin].

EDMONDS: Henry [*Probationer* 1902]; Frogmore, Wolverley, near Kidderminster [*Masters*: Messrs. Gething & Son].

GOODCHILD: William [*Probationer* 1904]; Craven House, 104 Hervey Street, Ipswich [*Master*: Mr. E. H. Coller].

GURNEY: Charles Frederick [*Probationer* 1904]; 31 Grimthorpe Terrace, Headingley, Leeds [*Master*: Mr. W. Evan Jones].

HAWKINS: Edward Hewlett [*Probationer* 1905]; 34 Old Park Avenue, Nightingale Lane, S.W. [*Master*: Mr. G. A. T. Middleton *].

HEPPENSTALL: Noel [*Probationer* 1903]; 43 Morley Lane, Milnsbridge [*Masters*: Messrs. Lunn & Kaye].

HOLLINS: George, jun. [*Probationer* 1903]; Place, Newcastle, Staffs [*Masters*: Messrs. Lynam, Beckett & Lynam *].

HUGHES: Rowland John [*Probationer* 1899]; 22 Old Street, Tonypandy, Glamorganshire [*Master*: Mr. Rowland Plumbe *].

JONES: Cyril Montagu [*Probationer* 1903]; 27 Regent Street, Swindon, Wilts [*Masters*: Messrs. Bishop & Fisher].

KOHLER: Hans Ferdinand [*Probationer* 1905]; King's College, Strand, W.C.

LEITH: George Esslemont Gordon [*Probationer* 1905]; 74 Cathcart Studios, London, S.W. [Architectural Association Day School].

MOLE: Charles John [*Probationer* 1904]; 27 Diamond Avenue, Plymouth [*Master*: Mr. H. Smith *].

MORGAN: David Howell [*Probationer* 1905]; Canal Head House, Aberdare, Glam. [*Master*: Mr. G. A. T. Middleton *].

PADFIELD: Albert Sanders [*Probationer* 1903]; 67 Cathedral Road, Cardiff [*Master*: Mr. George Thomas *].

PARNACOTT: Horace Walter [*Probationer*]; 15 Laurel Grove, Penge, S.E. [*Master*: Professor Elsey Smith *].

PEARCE: Tom Leighton [*Probationer* 1905]; 57 Cadogan Street, S.W.; [*Master*: Sir Wm. Emerson *].

PERREN: Alfred John [*Probationer* 1903]; 57 Underhill Road, Dulwich, S.E. [*Master*: Mr. Chas E. Barry *].

REW: Noël Ackroyd [*Probationer* 1902]; "Dereham," Great Berkhamsted, Herts [*Master*: Mr. C. H. Rew *].

ROBERTSON: Alan Keith [*Probationer*]; Warden Bank, Boswall Road, Edinburgh [*Master*: Mr. H. J. Blanc, R.S.A.*].

ROBSON: Bernard [*Probationer* 1904]; 1 Albion Street, Victoria Road, Scarborough [*Master*: Mr. J. Caleb Petch].

SAW: Duncan Grant John [*Probationer* 1900]; 58 Brownswood Road, N. [*Master*: Mr. Herbert Riches].

SHERLOCK: Edward Denton [*Probationer* 1904]; 12 Egerton Road, Fallowfield, Manchester [*Master*: Mr. F. W. Mee *].

SHINER: Lawrence Alexander David [*Probationer* 1902]; 6 Orsett Road, Grays, Essex [*Master*: Mr. Osborn C. Hills *].

SMITH: Robert Gardner Paget [*Probationer* 1904]; 108 London Road, Reading [*Master*: Mr. W. G. Lewton].

TAYLOR: Edward A. [*Probationer*]; 34 Margaretta Terrace, Chelsea, S.W. [Sydney University].

WALMSLEY: Archibald [*Probationer* 1904]; 11 Dale Street, Haslingden, Lancs. [*Masters*: Messrs. Haywood * & Harrison].

WARRY: John Lucas [*Probationer*]; 64 Ranelagh Gardens, Ilford [*Master*: Mr. A. E. Fewster].

WEST: Harry [*Probationer* 1900]; 8 Arlington Gardens, Chiswick, W. [*Master*: Mr. W. H. Bell].

WHITEHEAD: John Edmund [*Probationer* 1903]; 38 Bank Street, Sheffield.

WYETH: Joseph Henry [*Probationer* 1900]; "Fairlands," Epsom [*Master*: Mr. G. F. Grover].

The asterisk (*) denotes Members of the Institute.

Exemptions from the Intermediate Examination.

In accordance with the new regulations, the following Probationers, possessing the Degrees or Certificates mentioned against their names below, have been exempted by the Council from sitting for the Intermediate Examination, and have been admitted as *Students R.I.B.A.*:—

ADAMS: Laurence Kingston, B.A. [*Probationer* 1906]; Wyndcliffe, Westbourne Road, Birkdale, Lancs. [Liverpool University Degree in Architecture].

BERNTON-BENJAMIN: Horace [*Probationer* 1901]: 16 Orchard Street, W. [Board of Architectural Education Certificate].

COLLCUTT: Bertie Hawkins [*Probationer*]; 26 Park Avenue, Willesden Green, N.W. [Board of Architectural Education Certificate].

GOODWIN: Bernard Malcolm [*Probationer* 1903]; Hurst View, South Park Hill Road, Croydon [University College, London, First Class Certificate].

MORGAN: Hugh Bernard Townshend [*Probationer*]; 31 Lingfield Road [University College, London, First Class Certificate].

SCOTT-WILLEY: Hugh Henry [*Probationer* 1902]; Somersfield, Reigate [Board of Architectural Education Certificate].

THORP: Frederick, B.A. [*Probationer* 1905]; 87 Southbank Road, Southport [Liverpool University Degree in Architecture].

WELFORD: Arthur [*Probationer* 1904]; Theberton, 37 Mapesbury Road, Cricklewood, N.W. [Board of Architectural Education Certificate].

The Final Examination.

The Final and Special Examination was held in London from the 15th to the 23rd November, with an interval of one day between the Written and Oral Examination. Of the ninety candidates examined, fifty passed, and forty were relegated in various subjects. The following are the names and addresses of the fifty passed candidates, the † prefixed to a name signifying that the candidate entered for the Special Examination designed for architects in practice and chief assistants exempted by the Council from the Preliminary and Intermediate Examinations and from submitting Testimonies of Study:—

ABEL: Archie James Thomas [*Probationer* 1904, *Student* 1905]; 98 Chasefield Road, Tooting, S.W.

†ARMSTRONG, Walter Thomas [*Special Examination*]; 1 Slyne Road, Lancaster.

ATTLEE: Thomas Simons [*Probationer* 1902, *Student* 1904], Westcott, 18 Fortinscale Road, Putney, S.W.

BRADFORD, George Sydney Herbert [*Probationer* 1903, *Student* 1906]; 2 Gloucester Street, Warwick Sq., S.W.

CROSSLEY: Ernest Barraclough [*Probationer* 1893, *Student* 1904]; 23 Osborne Grove, Sherwood, Nottingham.

DALE: Thomas Lawrence [*Probationer* 1900, *Student* 1903]; 21 Flanders Road, Bedford Park, W.

DALRYMPLE: Hugh Alexander [*Probationer* 1903, *Student* 1904]; Upney House, Bridge Road, Grays, Essex.

DAWSON: Noel John [*Probationer* 1900, *Student* 1905]; 1 Fairfield Road, Chelmsford.

†DENNY: Alexander Cochran [*Special Examination*]; The Croft, Dumbarton, Scotland.

DREWITT: Colin Minors [*Probationer* 1902, *Student* 1904]; 55 Belmont Street, Southport, Lancashire.

FRASER: Percival Maurice [*Probationer* 1903, *Student* 1904]; 10 Basinghall Street, E.C.

HALLIDAY: James Theodore [*Probationer* 1901, *Student* 1903]; Hawthorn House, Wellington Road South, Southport.

HARGREAVES: John Horner [*Probationer* 1899, *Student* 1904]; 90 King Street, Manchester.

HAYWORTH: Dudley Parkes [*Probationer* 1900, *Student* 1903]; 91 Cazenove Road, N.

HOBSON: Joseph Reginald [*Probationer* 1901, *Student* 1904]; Clevedon, New Eltham, Kent.

HODGES: William Ashford [*Probationer* 1901, *Student* 1902]; 5 Egerton Mansions, S.W.

HORSFIELD: John Nixon, jun. [*Probationer* 1901, *Student* 1903]; Parliament Chambers, Westminster, S.W.

HOWITT: Claude Elborne [*Probationer* 1900, *Student* 1903]; "Rischolme," Bolsover Gardens, Sherwood Rise, Nottingham.

JAQUES: Sydney [*Probationer* 1901, *Student* 1903]; 143 Osborne Road, Forest Gate, Essex.

JONES: Norman [*Probationer* 1903, *Student* 1904]; 38 Knowsley Road, Southport, Lancs.

KEYS: Percy Hubert [*Probationer* 1901, *Student* 1903]; 16 Hillingdon Road, Uxbridge.

LANGMAN: Herbert [*Probationer* 1901, *Student* 1902]; 29 Shakespeare Street, Southport.

LOADES: Leonard Arthur [*Probationer* 1897, *Student* 1901]; North Field House, Morpeth.

LOVEITT: Rowland Arthur [*Probationer* 1900, *Student* 1902]; "Eastcroft," The Brent, Dartford.

LOVELL: Charles E. [*Probationer* 1900, *Student* 1902]; 66 Darnley Road, Gravesend.

MILBURN: William Godfrey [*Probationer* 1896, *Student* 1898]; Hollywood House, Wimbledon Common.

MILLAR: Allan Scott [*Probationer* 1898, *Student* 1902]; 89 Warwick Street, S.W.

MINOR: Philip [*Probationer* 1898, *Student* 1904]; 70 Palatine Road, West Didsbury, Manchester.

†MORGAN: Charles Leonard Thomas [*Special Examination*]; 43 Cannon Street, E.C.

†MUNBY: Allan Edward, M.A.Cantab. [*Special Examination*]; 46 New Bond Street, W.

MYERS: Norman Toller [*Probationer* 1899; *Student* 1902]; Grantchester, Clarendon Road, Watford.

NOTT: George [*Probationer* 1903; *Student* 1904]; 8 Market Street, Leicester.

PERKINS: Cecil Henry [*Probationer* 1899; *Student* 1904]; 76 Petteril Street, Carlisle.

PIERCE: Arthur Patrick Hector [*Probationer* 1901; *Student* 1903]; 15 Carlingford Road, Hampstead; and Auckland, New Zealand.

†REID: James Campbell [*Special Examination*]; 209 St. Vincent Street, Glasgow.

ROBERTS: Haydn Parke [*Probationer* 1899; *Student* 1903]; Education Offices, Horsham, Sussex.

†RUNTON: Percy Tom [*Special Examination*]; Victoria Chambers, Bowlalley Lane, Hull.

†SADLER: William Thomas [*Special Examination*]; 65 Pathfield Road, Streatham, S.W.

SIFTON: Isaac Taylor [*Probationer* 1900; *Student* 1902]; 48 Breakspears Road, St. John's, S.E.

SMITH: John Myrtle [*Probationer* 1889; *Student* 1904]; 8 Trafalgar Square, Chelsea, S.W.

SOLOMON: Digby Lewis, B.Sc.Lond. [*Probationer* 1902; *Student* 1903]; 21 Hamilton Terrace, St. John's Wood, N.W.

TASKER: Andrew Kerr [*Probationer* 1894; *Student* 1898]; Howard Chambers, North Shields.

THORP: Ralph Windsor [*Probationer* 1901; *Student* 1904]; 32 Hillfield Road, West Hampstead, N.W.

TOOP: Frank John [*Probationer* 1899; *Student* 1901]; 191 South Lambeth Road, S.W.

TWEEDIE: James Irving [*Probationer* 1900; *Student* 1902]; Kelhead, Annan, N.B.

WADE: Charles Paget [*Probationer* 1902; *Student* 1904]; "Elmsley," Yoxford, Suffolk.

WADE: Fred [*Probationer* 1900; *Student* 1905]; 23 Bank Street, Bradford, Yorks.

WEARING: Stanley John [*Probationer* 1903; *Student* 1905]; 6 Millstone Lane, Leicester.

WICKENDEN: Arthur Fred [*Probationer* 1899; *Student* 1903]; County Architect's Office, 86 Week Street, Maidstone, Kent.

WYLLIE: William Barnet [*Probationer* 1903; *Student* 1904]; 67 Kennington Oval, S.E.

The following table shows the number of failures in each subject among the forty relegated candidates in the Final Examination :—

I. Design	30
II. Mouldings and Ornaments	24
III. Building Materials	13
IV. Principles of Hygiene	17
V. Specifications	13
VI. Construction, *Foundations, &c.*	15
VII. Construction, *Iron and Steel, &c.*	21

The Ashpitel Prize.

On the recommendation of the Board of Examiners the Council propose to award the Ashpitel Prize to Mr. James Theodore Halliday, of Stockport, "as having most highly distinguished himself" in the current year's Examinations.

THE BUSINESS MEETING, 3RD DECEMBER.

Revision of the Charter and By-laws: Admissions to the Fellowship.

The ordinary business concluded at the General Meeting last Monday, the Meeting proceeded to the consideration of the various propositions of which notice had been given, and which were duly set out on the printed agenda of the meeting previously issued to members. The first matter, having reference to the revision of the Charter and By-laws and admissions to the Fellowship, was brought forward on behalf of the Council by the Chairman of the Meeting, Mr. Leonard Stokes, *Vice-President*. The proposition as printed on the agenda was as follows :—

"By-law 3, as amended at the General Meeting of the 6th June 1904, not having yet received the sanction of the Privy Council, the old form of by-law is still in operation. The Council suggest, however, that pending the settlement of the larger questions involved in the revision of the Charter and By-laws (suggested by the Registration Committee and adopted in principle by the General Body, but referred to the Council for a report) they continue to act under the old by-law until such time as all the changes may be made together, the Council undertaking in the meantime to act in accordance with the spirit of the proposed by-law until it comes regularly into force.

"A number of nominations to the Fellowship have, however, lately been made from the Colonies and elsewhere, some of which had to be referred back for further information. The Council propose to deal with these, in common fairness to the candidates, on the old lines."

THE CHAIRMAN, having read the proposal as above, went on to say that it would no doubt be remembered that in the spring of 1906 the Institute had adopted in principle the recommendations of what was commonly called the Registration Committee.* If those recommendations were carried into effect, considerable alterations would have to be made in the Charter and By-laws, and it seemed to the Council rather a pity to go to the Privy Council now for a comparatively small alteration, when in a few months' time fresh and very extensive changes in the by-laws would be called for, necessitating another application to the Privy Council. The Council, therefore, made the suggestion that, pending the settlement of the larger question, things should be allowed to go on as before, with the undertaking that the Council were prepared to give that in the meantime they would act in accordance with the spirit of the proposed alteration in the by-law, subject to the proposal in the last paragraph with reference to nominations which had had to be referred back. The Chairman concluded by asking the Meeting to adopt the suggestion of the Council, which he then moved as a resolution.

Mr. GEORGE HUBBARD, F.S.A. [*F.*], asked if the Chairman would tell the Meeting how long it would be before they would be able to go to the Privy Council with the revised Charter and By-laws, and what steps were being taken to further that end.

THE CHAIRMAN said he could not answer at the moment for the whole Council, but his impression was that it would be during the present Session: probably within two or three months they would have the whole proposals before them. With regard to the steps that were being taken, a committee was now sitting on the subject, and had in fact reported; but unfortunately rather an important point had been missed, and the report had been referred back to them for further consideration. The whole thing was in train, and no time was being lost.

THE SECRETARY, replying to Mr. HUBBARD as to the composition of the Committee who were sitting on the subject, said that the original Committee consisted of the President as Chairman, and four members of the Council who were in favour of registration and four who were opposed to it. This Committee was responsible for the report which was adopted by the General Body last April. In view of the fact that this Committee had heard all the arguments and all the evidence on the question of registration, the Council had reappointed them as the Charter Revision Committee, with the addition of two other members, Vice-Presidents of the Institute.—Replying further to Mr. Hubbard, the Secretary stated that the appointment of the two additional members had been made without any reference to their opinions on the question of registration. As a matter of fact, one of the members of the original Committee—Sir Aston Webb—found that pressure of business would not allow him to act any further on the Committee, and his place had been taken, not by a member of the Institute in favour or otherwise of registration, but by a member who should represent the Associates. The party constitution of the Committee had been entirely put on one side.

THE CHAIRMAN said that that was a point he should like to emphasise. There was no longer any question of party—of Registrationists or Anti-Registrationists. The Council had been instructed by the General Body to carry certain proposals into effect, and they were doing what they had been instructed to do. They had appointed a Sub-Committee to thresh the matter out, and a report was in preparation.

Mr. HUBBARD said he should like to enter his protest against the addition to the Committee of the two members referred to. He was not in any way antagonistic to the two members themselves, for they were both friends of his; but as the Committee had been carefully selected in the first instance, with the President as Chairman, it would have been advisable to leave it alone.

THE CHAIRMAN explained that one of the members had gone to India and would be away for some months, and Sir Aston Webb had retired: that was one reason for adding to the Committee.

* See JOURNAL 7th April 1906.

Mr. HUBBARD: I give the Council credit for doing the best they can.

Mr. R. J. ANGEL [A.] asked when the application for the amended by-law had been made to the Privy Council, and if the postponement of the approval of the Privy Council had had any reference to the action taken by certain members of the Institute who petitioned the Council for a ballot on certain candidates at a recent election.

THE CHAIRMAN said that the Privy Council had not been asked so far to sanction the alteration of the By-laws. They hoped to have been able to come earlier to some settlement on the larger questions, and so be able to get all the changes made together. Unfortunately the time for the small change in By-law 3 had arrived before the time of the greater changes, and they proposed to let the small change wait for the greater changes.

Mr. ANGEL pointed out that the wording of the resolution, "By-law 3, . . . not having yet received the sanction of the Privy Council," led one to infer that an application had been made.

Mr. HERBERT SHEPHERD [A.] asked the reason of the delay in applying for the sanction of the Privy Council. The alteration of the by-law had been agreed to nearly three years ago. Who was responsible, and why had not steps been taken earlier to get the amendment sanctioned?

THE CHAIRMAN pointed out that, although the resolution passed the General Body in 1904, it was not to take effect till the end of the present year. There was no immediate necessity for going to the Privy Council for an alteration that was only to take effect after the expiration of nearly three years; hence the application had been postponed. Then the registration question arose, and it was expected that further changes would have to be made in the By-laws. Finally, as he had already explained, it was decided that it would be better to wait until all the alterations could be made together.

Mr. ANGEL: As a matter of courtesy to the Institute, members ought to have been told that before.

Mr. W. HENRY WHITE [F.]: The matter ought certainly to be proceeded with.

THE CHAIRMAN: If the Meeting wishes, we can apply now. We shall only be a month or two late.

Mr. HUBBARD: It seems to me it is not a month or two late; it is a year or two late; and if the Council is waiting for instructions, and I am in order in proposing a resolution at this meeting, I beg to propose that the Council apply forthwith.

Mr. G. A. T. MIDDLETON [A.]: I should second that, but I hardly think it ought to be necessary. The Council have had definite instructions. They ought to have made application before, and should do so now without any pressure from this Meeting.

Mr. LACY W. RIDGE [F.] said that as a matter of common sense they ought not to incur the expense of going twice to the Privy Council. He had had a great deal to do with getting the previous Charter and By-laws through, and he remembered what a great expense it was. If they went twice to the Privy Council it would cost twice as much as if they went once. The common-sense plan was to wait till they could go with all the amendments together.

THE CHAIRMAN agreed with Mr. Lacy Ridge. The question of expense was a very serious one, although he had forgotten for the moment to mention it. They were bound to have to go to the Privy Council towards the middle or end of the Session with sundry drastic changes in order to meet the resolutions passed by the Institute last Session. Was it worth while going to the Privy Council for the one change in By-law 3, seeing that the Council undertook in the meantime to act in accordance with the spirit of that by-law?

Mr. H. C. CORLETTE [F.] said he should have pleasure in seconding the resolution moved from the Chair. As far as he understood the case, the Council appeared to have been doing its best to further the interests of the Institute, and not in any way to avoid some duty which the General Body had put upon them.

Mr. MAURICE B. ADAMS [F.] said it had been arranged that the close time for admission to Fellowship should date from the end of the present year; and if there was one thing which would induce him to agree to a further delay in the matter it was that unfortunately a few months ago several candidates had failed to secure election who ought to have been elected; and although he thought that having fixed upon a date they should if possible adhere to it, yet he felt that those gentlemen having thus been blackballed by a combination, which must be considered most unfortunate, the rejected candidates referred to should have an opportunity of coming forward again. There were several men on that list who ought certainly to be members of the Institute, and their being rejected was somewhat appalling, because he felt that they were not rejected on their own merits, but that it was due to circumstances over which, apparently, nobody had any control. So that although he regretted this system of procrastination, which would probably be taken by outsiders as an element of weakness, still, considering that several desirable candidates were thrown back in that way, steps might be taken under the circumstances to indicate to them that an opportunity would be afforded by which they would stand a chance of election.

THE CHAIRMAN: I may say, Mr. Adams, that I think the Council is quite with you in your suggestion. The only thing is that we have this resolution of the General Body.—The CHAIRMAN went on to ask if some reference could be made in the second paragraph of the resolution to the rejected candidates referred to by Mr. Adams, and THE SECRETARY suggested that their names might be specified.

Mr. H. V. LANCHESTER [F.] said he thought the phrase in the resolution, "the Council undertaking in the meantime to act in accordance with the spirit of the proposed By-law," was somewhat ambiguous. It would save recriminations in the future if it were made a little more definite.

THE CHAIRMAN: Mr. Adams, do you accept the Secretary's suggestion that those gentlemen not elected at the March meeting should be invited?

Mr. ADAMS said he thought it would be a good plan. The circumstance to which he had referred was in the mind of everybody, and if it were indicated in a general way, without particularising names, everyone would understand it, and if there were any individuals on that list who ought not to be elected, he hoped they would not be nominated. He did not know that it was altogether a healthy procedure to take a large number of names, as they had done that evening, and pass them *en bloc* into the Institute. Of course he admitted that the Council had already considered these names; but he must say that very distinguished names had sometimes been attached to proposal papers of candidates whom he had been rather surprised they should be associated with. Sometimes it might not be possible for them to ascertain exactly all that might have transpired with regard to those persons, and when one saw two or more big names behind a man one did not like to interfere, because one supposed that the proposers had satisfied themselves that the person proposed was a desirable candidate. He thought Mr. Locke's suggestion would get them out of the difficulty, and he hoped there would be no more recriminations, because unless they all pulled together they would get deeper into difficulties in this regard.

Mr. W. HENRY WHITE [F.]: What power have the Council to act on the proposed by-law?

THE CHAIRMAN: The only thing is that the Council give

a guarantee that they will act in accordance with the spirit of the proposed by-law.

Mr. WHITE: What power have you to do that?

THE CHAIRMAN: The Council can pledge themselves to act on a principle surely; and there is always the vote of the General Body behind them.

Mr. LANCHESTER: Is there any objection to their acting as if the by-law were in force. Is that too stringent?

THE CHAIRMAN: It is for the Meeting to say. The suggestion that is now made is that the second paragraph in this proposition should read as follows, "A number of nominations to the Fellowship have, however, lately been made from the Colonies and elsewhere, some of which had to be referred back for further information. The Council propose to deal with these, in common fairness to the candidates, on the old lines."

Mr. LANCHESTER: "And in all other respects to act as if the by-law were in force." That is what I think you want.

THE CHAIRMAN: That is what we have said.

Mr. G. A. T. MIDDLETON [*A.*]: If a proposal came to you under the old By-laws you would be obliged to deal with it under the old By-laws if the applicant forced you.

THE CHAIRMAN: That is perfectly true up to a point, but the new by-law gives power to elect certain eminent gentlemen. All we could say would be that these gentlemen do not come up to our standard. We have a discretion.

Mr. H. C. CORLETTE: May I suggest the words "act under the old By-laws as far as possible"?

Mr. C. E. HUTCHINSON [*A.*]: Have you any idea when these By-laws will be amended?

THE CHAIRMAN: I have already said it will be before the end of this Session—probably in two or three months.

Mr. HUTCHINSON: Do you say they will be altered then?

THE CHAIRMAN: I do not say they will be altered then, but we shall be in a position then to apply to the Privy Council.

THE CHAIRMAN, after some further discussion, asked the Meeting to vote on the proposition, pointing out that the first paragraph had not been amended, but at the end of the second paragraph it was proposed to add "and also the list of candidates who were not elected at the election in March 1906."

Mr. J. J. BURNET, A.R.S.A. [*F.*], said he felt the suggested addition was rather dangerous. Suppose those candidates refused to come up again, were not the Council laying themselves open to a snub? He happened to know some of those candidates, and they felt rather sore about their rejection. His opinion was that the phrase in the resolution, "from the Colonies and elsewhere," covered everyone. He did not see that there was any necessity to refer to the gentlemen who were not elected. It was a painful recollection at the best, both for the Institute and for the Associates, who, he understood, caused that election to fall void.

Mr. G. N. ELKINGTON [*A.*]: Shall we be in order in passing a resolution dealing with the candidature of members who have not been elected? I thought there was another by-law which would prevent their coming up for election again for a certain period.

THE SECRETARY: The next possible opportunity would be in March, which would be exactly a year according to the By-laws.

Mr. MIDDLETON: After the remarks made by Mr. Adams it will be perfectly clear to everyone that no slur was intended on the candidates who were not elected. I think it quite unnecessary to refer to it in any way.

Mr. C. E. HUTCHINSON: If we continue this by-law as it stands at present, the Council cannot discriminate between certain individuals who have applied, certain colonial individuals who are applying, and those who may apply between the present time and the time when the by-law is altered. You may have several excellent men who are well worthy of the position. I think the Council would be in a very unfortunate position if they had to say, "No, we have come to an understanding with the General Body of the Institute that we are not to consider any other applications except those of certain individuals." It is a very serious point, from a business point of view, in my opinion.

THE CHAIRMAN: The Council does not elect. At the worst the Council can send a few more than are necessary, and then you can reject them.

Mr. HUTCHINSON: My objection is that the Council have received the wishes of this Meeting hitherto to encourage people to apply for Fellowship, and if the by-law still remains in force we shall have to abide by that resolution, which was passed by the General Body.

THE CHAIRMAN: What do you suggest?

Mr. HUTCHINSON: I only wish to put up a warning finger, that if you carry this resolution I think the Council will have to adopt exactly the same policy that it has done hitherto. Personally I would support it.

Mr. MAURICE B. ADAMS said his point was that those men who were rejected had not been fairly treated, and certain of them, he had no doubt, felt very sore about it. Many of the gentlemen elected that evening were not one whit to be preferred to those rejected for ulterior reasons last March. As a body they owed them some sort of amends, and he thought the reference proposed would meet the case. He did not wish to press the point, but he maintained that those men ought to feel that the Institute was rather ashamed of what had happened. There was another matter which had not been mentioned. There were several gentlemen, he knew, who would be very desirable Fellows of the Institute, but who were deterred from coming up because of the action of the Associates on the occasion referred to.

Mr. W. J. GILLILAND [*F.*], of Belfast, moved, as an amendment, that the last clause, namely, "A number of nominations to the Fellowship," &c., down to the words "on the old lines," be omitted. The amendment, however, fell through for want of a seconder.

THE CHAIRMAN: The Council were instructed to get the new by-law to come into effect at the end of 1906. If we could make it at the end of 1907 we should get over the whole difficulty. That would give us another year's grace, so to speak, and then we should have the whole of the changes ready and be businesslike throughout.

Mr. OWEN FLEMING [*A.*]: I propose that.

Mr. W. HENRY WHITE [*F.*]: I second it.

The resolution—viz. "That the date 31st December 1906 in the resolution of the Institute passed 29th February 1904 be extended to the 31st December 1907"—was then put from the Chair and carried.

Mr. HUBBARD: You must have notice of the amendment of a by-law.

THE CHAIRMAN: It is not a by-law. At a previous meeting a date was settled by the Meeting, and this Meeting now postpones it.

Mr. HUBBARD: I am entirely in favour of the postponement. I think an injustice has been done, and I should be very pleased if anything could be arranged to remedy it.

Reform of Building By-laws.

At the same meeting Mr. LACY W. RIDGE [*F.*], who has worked so long and arduously in the cause of rural building law reform, brought forward the following resolution:—

"That the Royal Institute of British Architects is of opinion that the provisions of 'The Public Health Acts (Building By-laws) Bill 1906,' which

has already passed the House of Lords, and is now sent to the House of Commons, will, when enacted, prove advantageous in facilitating building operations in rural districts."

Mr. LACY RIDGE said: I am requested by the Building By-laws Reform Association to ask the Institute to support this resolution. They have taken a great deal of trouble to relieve us and themselves from the evils from which we suffer on account of the very inappropriate by-laws which are in force in many parts of the country. They have taken the trouble to get this Bill passed through the House of Lords. Several men of experience gave evidence before a Committee of that House, and the Committee honoured me by asking for my assistance. The House of Lords recognised the point that the by-laws now existing were oppressive, that they were detrimental to the interests of building in the country and to the proper provision of cottages for the working classes. The Local Government Board, I am glad to say, are very much impressed with the same idea. This Bill, therefore, has been passed through the Lords; it has been more or less amended at the suggestion of the Local Government Board, and now awaits—and I am afraid will wait for many months—the attention of the House of Commons. So far as it goes it is a good Bill, and its promoters would value very much the support of this Institute, which can be given by passing the resolution I have proposed. The Bill does not do all that we should like, but it does two things, and it does those two things very well. It extends to the country districts that exemption which already exists in London for buildings which are sufficiently detached to make it of no consequence to other people as to how they are built. All those laws about thicknesses of walls and the materials you have to use, and that sort of thing, would be swept away whenever a man chose to put his buildings sufficiently within his own curtilage not to be in any way a nuisance to his neighbour, or likely to cause risk of fire. The sanitary arrangements, following the lead of this Institute, the By-laws Reform Association do not desire to touch. As far as drainage goes, and anything which affects the health of the people, these buildings would still be subject to supervision. But they would not be subject to those harassing matters of supervision which are such a terrible nuisance when you come to build in the country, especially if you want to build with anything like originality, and with materials which have never been heard of at Whitehall. That is the first part of the Bill. The next part gives an appeal, and enables the local bodies themselves to override their by-laws in cases where they are manifestly inapplicable; and, moreover, this Bill enables anyone who wishes to build, and has a dispute with the local authority as to the meaning of a by-law, to get the matter settled by a court of law before the building is erected. The Bill is a very great improvement, and gives that elasticity which is so very much wanted when the surveyor comes along and says, "That is my by-law and you must carry it out." That view, at any rate, he will not be able to hold to anything like the same extent that he has been able to do in the past. The exemption for detached buildings is enacted in the Bill for rural districts, but there are provisions in the Bill by which that exemption may be extended to boroughs and places where urban by-laws are in force. So that if this Bill passes, throughout the whole country the same exemption, for anybody who builds in a detached situation, will exist which we now have in London. I need scarcely say that, whereas in London it is comparatively useless, in the country it would be of almost universal application. A useful provision of the Bill is that two cottages, or two domestic buildings, properly separated by a party-wall should be counted as one building; that is to say, they should not be compelled to follow all the details of the Building By-laws if they have between them a sufficient separation for fire. The Bill is a quite reasonable one, and it is the best we can do up to now. I think it does very great credit to the Building By-laws Reform Association, considering the present stagnation in everything in the way of legislation, that they have accomplished so much. It shows very great energy on their part. Happily they have considerable influence, and many of the members have time, which we practising architects have not, to devote to this sort of thing. I think we owe the Association a great debt of gratitude for having got thus far, and I propose that we show our gratitude by passing this resolution.

Mr. J. DOUGLASS MATHEWS [*F.*] seconded the resolution, which was further supported by Mr. GUY DAWBER [*F.*].

Mr. LACY RIDGE, in reply to Mr. ERNEST NEWTON [*F.*], stated that the Bill would be compulsory in rural districts. It might be made compulsory in boroughs on the application of the authorities themselves, or of persons representing a tenth of the rateable authority, if they applied to the Local Government Board.

Mr. H. D. SEARLES WOOD [*F.*] said that when they were before the President of the Local Government Board he had half-promised that the By-laws should be brought up for review, and he distinctly promised that Lord Hylton's Bill should be passed, and probably this year. He thought it would be desirable to mention that in the resolution, and perhaps the Meeting could add a rider to that effect.

Mr. LACY RIDGE: Let us be thankful for what we have got.

The resolution, having been put from the Chair, was carried by acclamation.

Public Officials as Architects for Public Buildings.

At the same Meeting Mr. HERBERT W. WILLS [A.], in accordance with notice, brought forward the following resolutions:—

1. "That the Royal Institute of British Architects considers it unadvisable in the interests of architecture that public officials should act as architects for public buildings."
2. "That the Council of the Institute should obtain statistics of the sums paid to official architects, surveyors, and engineers and their staffs, with a view to instituting a comparison between such sums and the fees which would be paid to outside architects for similar work, in order that, if the latter charges compare favourably with the former, they should approach those public bodies who already employ, or are contemplating employing officials, with a view to securing the abandonment of such a system."

Mr. WILLS in introducing his resolutions read the following remarks:—The subject of my resolutions is one in which all architects are interested, and the Institute, as representing architects of the United Kingdom, especially so. Were one to state in a few words the most worthy object for which the Institute can work it would, I think, be summarised in the expression "to secure for all architects the opportunity of freely exercising their talents," in order that thereby the object of the Charter, the advancement of architecture, might be brought about. There is no work of great architectural merit carried out without increasing the emulation amongst us to do something in our turn of real excellence and without increasing the legitimate claims we have on the consideration of the public. Great architecture in the past has been the result of the efforts of individuals living in communities which recognised (at least to some extent) the success which they had attained, and not the result of a bureaucratic system such as that now instituted by many public bodies. We know the disadvantages of the employment of officials; but it may be as well to summarise some of them in order to arrive at the reasons most likely to carry conviction with those in power. First, really great architectural design is only likely to be the work of those who devote their whole time to it. Some of the great architects of the Renaissance are exceptions, but even then the outside subjects to which they devoted attention were more or less allied to architecture as then practised, and we are not in a position to say that their work would not have been even greater than it is had they been more exclusively occupied in the practice of architecture only. Secondly, the best men in our profession (and by best I mean those of most unusual excellence in designing powers) are unlikely to be willing to bind themselves for any salary to design buildings of a special kind, or for a special locality, fettered as they would be by having to run departmental offices, attendance on committees, and other routine work. Thirdly, when a public body appoints an official architect, they are apt to think it sufficient that he should possess certain diplomas, or that he should have certain practical experience. Now the membership of this Institute or any other similar body, while it should imply the certainty of a man's having undergone a certain training, and the possession of certain qualifications, does not, and can in the nature of things never mean that he possesses ability of the first architectural order. And it is the possession of this ability, whether indicated by his past work or by what he has shown he can do in solving a special problem when competing with others, which should alone entitle him to be employed by a public body if our buildings are to be what they should be, in the interests of architecture and that of the public, the best that can be produced. Fourthly and lastly, there is the question of economy, and economy of two kinds, the greater economy of spending money on what is best instead of on what is second rate, and the smaller or less important economy of the amount which has to be paid for certain defined services.

My resolutions this evening may be criticised on the ground that objection should only be taken to the employment of unqualified men, such as borough engineers and surveyors, to do architectural work. My answer is this, that no qualification which can be suggested is sufficient to exclude the second-rate man, and that the second-rate man if appointed officially obtains a monopoly either of a type of building or in a local area. Further, if we are attacking a system, there is little use in narrowing down the real issues, and we shall enlist the sympathies of those who object to the socialistic attempt to carry out by rate-paid officials any work which can be reasonably, efficiently, and economically carried out by private individuals *wherever it is required.* These last words are important. A staff is created to deal with a great press of work at some one time. When that press is over the tendency is rather to find further work for the increased staff and not to cut it down. This is, I think, an argument which does appeal to the average ratepayer. Now for the present position of matters in this country. We find the architectural department of the London County Council employing a staff of something like 200 men, and carrying out their own schools, asylums, fire stations, generating stations, the central school of arts and crafts, housing, and other sections of public work. Many counties, including the great counties of Yorkshire and Lancashire, have their county architects. The Lancashire county architect has carried out a large Sessions House at Preston, a home for inebriates,

and is to be given the next County Asylum. For this work I believe he gets 3 per cent. or 4 per cent., in addition to his official salary. He was, I believe, in one year called on to report on something like thirty cases in which new schools or alterations to existing schools were required. Most of the new county education authorities employ their own architects. Nottingham, Dundee, Manchester, Bradford, Edinburgh, and Aberdeen are among the towns which employ official architects. The practice seems to be one which is likely to be largely followed unless the Institute and the Allied Societies take action to prevent it. I have communicated during the last few weeks with the Secretaries of the Allied Societies, and sent them copies of the resolutions which I am bringing forward, and most of them have brought my letters before Meetings, who have passed resolutions on the subject. My resolutions are endorsed by the following Societies, those of Liverpool, Manchester, Glasgow, Nottingham, and Bristol, and the Northern Society. I have letters from the Secretary of the Royal Institute of Irish Architects, who are much affected by similar practices in Ireland. The Societies of Birmingham and Leicester say they have little to complain of. The Leeds and Yorkshire Society passed a resolution that they object where the official is a bad appointment, but not otherwise, but I think this attitude may be modified in the near future. The Sheffield Society is in sympathy with the proposed resolutions, but considers that it would be extremely difficult to get sufficient data on which to act. Now with regard to the necessity of employing official architects, the position seems to me to be this. In large building areas like that of the County of London there is clearly much necessary work to be done in advising the Council on the many architectural problems which have to be dealt with, and we are all glad to admit how very ably these are dealt with by the Architect to the Council. But, however able a man may be who is employed in such a capacity, I do not think that his functions should include that of designing any class of buildings. Such work must in the nature of things be chiefly the work of a large staff of assistants, who, whether they are good, bad, or indifferent, are unlikely to be men of the same calibre as the architects to whom such work would otherwise be given. The possible abuses of such a system in the smaller districts and under less able chiefs are many. In one case I heard of, the official had obtained the services of an outside architect of ability, who designed several buildings for him for a share of the fees paid—a form of ghosting which is not admirable or conducive to good work. Another lesser evil, but still an objectionable feature, is that where the official has, with the concurrence of his employers, associated an outside architect with himself for certain work. In such cases we must wish that the outside architect, who is probably responsible for all the design, should also obtain all the credit. With regard to my second resolution, I should very much prefer to put our argument against the employment of officials on the broad general issues to which I have referred; but, like Achilles, who could only be wounded in the heel, I feel that there are some attacks which can be best made on what I consider as secondary lines. The very able and moderately worded Memorial sent out by this Institute produced little result, because I believe it deals in large issues which the average member of a public body does not appreciate. But if we can once demonstrate to the ratepayer that he is adopting a system which means more and not less expense in fees, that system is doomed. If, on the other hand, it could be shown—and I do not for a moment anticipate it—that public bodies actually effect an economy in employing officials, a *prima facie* case would be made out for the revision of our scale of fees; for no scale of fees, however admirable, will console us if we have no opportunity of using it. My suggestion is that a committee should be formed of the Institute and the Allied Societies, and that this committee should examine witnesses and collect all the possible evidence relating to the instances where officials are employed, the salaries and fees paid to them, the salaries and numbers of their staff, and the number of buildings carried out; and my belief is that when such evidence is collected and arranged, we shall find we have ample data with which to approach public bodies, and to ask for the abandonment of the official system. There are naturally many difficulties in the way; but may this not be said of any important issue with which we have to deal? We know that if we tamper with a nettle it will sting us, while if we grasp it firmly we can pull it up by the roots; and so I believe it will be in this case. I may also add that if we only succeed in convincing a minority, that minority may at any time become a majority; and I think at the present moment there are signs that the public is a little tired of the light-hearted enterprises of some of our public bodies.

Mr. Wills having formally moved his resolutions,

Mr. George Hubbard, F.S.A. [*F.*], said he had been asked to second the resolutions, but he had no idea they were going to hear such an exhaustive report upon the whole subject. He had listened very attentively to Mr. Wills, and confessed that he had been very much impressed by his arguments. It was undoubtedly a hardship to competent architects to see large municipal buildings being erected everywhere throughout the country, and for those architects to have no chance of sharing in any of that work. In his opinion—and he was sure it was the opinion also of the General Body—this important work should not be entrusted to any other than properly qualified architects. As municipal authorities did not appear to be particular about the cost of their undertakings, he feared that an argument on the score of economy would not appeal to them. Still, it would be advisable if possible to gather statistics, and when they had these before them they might be in a better position to deal with the question. He

thought Mr. Wills's suggestion a very useful one, and he had much pleasure in seconding the resolution.

Mr. H. V. LANCHESTER [*F.*] said he supported the resolution most strongly, and he thought by adopting it they should produce some result. They might probably get snubbed by some of the authorities; but there were certainly some local bodies who took sufficient interest in their affairs to get the information asked for and see whether they were spending more than they would if they employed independent architects. He had personal experience of the fact that they did spend more on their official staff than they would pay an independent architect, and they got their work worse done. They all knew that it was difficult to point to a single work done by an official architect, in recent years at any rate, that really had an air of distinction. There might be one or two exceptions; but the general average, he was afraid, was distinctly against them, whereas the works that had distinction had nearly all been done by the architect who devoted himself to architecture and had not been drilled all his life in drains and road surfaces. He thought the Committee proposed by Mr. Wills might succeed in approaching various large bodies and getting them to support an independent investigation as to what their big official staffs cost in comparison with the work they got from them. There was no doubt that if they conducted this independent investigation without bias, and with the sole desire of getting at the truth, they would find that their official staffs cost them a great deal more than they had any conception of for the actual architectural work. With regard to the first resolution, there was not a word more to be said upon it. There was no question that the encouragement of architects to strive to emulate the work they saw before them, was the best way of conducing to good work in the future.

Mr. R. J. ANGEL, M.Inst.C.E. [*A.*], said that Mr. Wills's remarks to some extent rather supported the case that he (Mr. Angel) was going to put before the Meeting on behalf of the public officials. Mr. Wills had shown that public officials were accustomed to work consecutively upon the same work. That, he claimed, was a great argument in their favour, inasmuch as they must necessarily get considerable experience in that work. He wished to tell the Meeting that within the last month some architects in the country, Fellows of the Institute, previously in independent practice, had become public officials, carrying with them the experience gained in private practice. But if the resolution before them was carried into effect those gentlemen would be swept out of office. It had been stated that the architecture of public officials was unadvisable. He would show them presently that it was not the *architecture* of public officials which was unadvisable. The objection to their architecture arose from another cause. He would remind members of the Institute that it was not altogether public officials who disgraced architecture. They need not go far from that spot to find work of a very inferior character done by gentlemen who were called architects. He maintained that a public official had of necessity to be conversant with buildings of a municipal nature. That was probably why he occupied his position. In the case of the county architects Mr. Wills had shown them that they had been doing large buildings, and doing them repeatedly for a very long time, and probably they would have more of the same work put in their hands. Surely that went to show that those gentlemen had the experience, and he had yet to learn that their buildings were inferior and would probably not be passed by the Institute. A public official's work was specialised in the particular calling to which his work was directed. In calling a man a public official he included everyone who was a public official designer, whether he be a county architect, a School Board architect, a town or a city architect, or any of the other branches of the profession, or an engineer. It seemed to be assumed that the private architects alone had specialised. To instance the case of school-planning, who alone had taught the architects of this country the art of school-planning? Had it not been the officials who had in times past occupied the post of architects under the London School Board? Had not those officials first initiated the present excellent standard to which the plans of schools had been brought? Was it not the fact that the architects of England had regularly visited London schools to see what the latest development in school-planning was? Was not that a tribute to the capacity and ability of the public official? He would show the Meeting the sweeping nature of the resolution. First of all, the official architect to the Post Office would have to vacate his position. He was a public official; he was paid out of the taxes; he worked for a salary. The architect to the Board of Works, the architects to all the County Councils of England, would have to go. The various borough surveyors, among whom many were trained architects, would have to go. As a matter of fact they had a precedent for an attack upon public officials. Was not Sir Christopher Wren a public official with a salary of £200 a year, and during the last five years of the building of St. Paul's was he not continually bickered over his salary, which was eventually divided by half in order to hurry him up over the execution of St. Paul's? He must not be assumed to be advocating the employment of a public official who was not trained. It would be just as fallacious to take up that position as to expect a public official who had had no experience whatever in designing a sewage farm or a pumping station to set to work on doing it. Mr. Wills did not seem to know that the Institute was in favour of a town architect. In 1904 the Secretary of the Institute wrote a letter which contained these words: "That the Council more or less recommend the establishment in towns of a town architect, with certain restrictions as to his functions." If the resolution was acted upon, it followed that town architects in future would have to cease, notwithstanding the fact that the Council recommended their being established. Town architects were desirable for the following reasons. First of all, the question of extras did not crop up with them, because a town architect or an official architect who was continually coming up with a large crop of extras would very soon find his position gone. It was his duty to see when his plans were drawn out that there would not be a heavy account for extras afterwards. He knew of a case, and it was not an isolated example, in which extras had been purposely worked in. A competent design was asked for, and the cost had to be attached; there were to be no fireplaces; yet the heating apparatus was purposely left out; and when the building was in course of erection it dawned on the Council that there would have to be a heating apparatus. "Oh," said the architect, "if you want heating apparatus of course that is an extra," and on went £2,000 or £3,000, for a very large building. That kind of thing sometimes went on until the extras came up to about 25 per cent. of the original tender. Did they think that a public official would ever maintain his position if he allowed that kind of thing to go on? No fees for extra sets of plans ever came up with an official architect, which, of course, was a source of very great increment to the architect who designed the plans for the Council. There were no fees for consultations or for attending inquiries. It had been admitted that it might sometimes be desirable that a county or municipal official should be appointed to carry out certain architectural work provided he had passed the Institute examination. Perhaps it was not always a credential to a man having passed an examination. In the second of Mr. Wills's resolutions it was suggested that the cost of an official architect was far greater than the five per cent. which would be paid to a private architect. But public authorities did not keep a standing army of

assistants whom they had to pay whether they were employed or not. There were such bodies as ratepayers' associations; there were the auditors, again, who would see that the expenses of the authority were kept within proper limits. He had probably saved the Council some trouble in going round and getting some information from local authorities, for he did not believe the Council would be able to get the information. The expenses of town architects carrying out works—and he had got the information authoritatively in anticipation of this Meeting—ranged in one case from 2 per cent. to 3 per cent. of the cost of buildings erected. In another case it was 2½ per cent., and others ranged from that in decimal points up to three; but none of them were over three. He trusted that the Council would not make application to the local authorities for the information asked for, because it was not the practice of authorities to give such information to outside Societies. This would be looked upon as a sort of professional trade unionism which would not be supported by a local authority. What was the real gist of the business before them? One of His Majesty's Judges had recently remarked that "it were better to lose by candour than to win by concealment." The real object of the present motion was a misording of the resolution, which should read: "That the Royal Institute of British Architects considers it unadvisable, in the interests of *architects*, that public officials should act as architects for public buildings." That was the root and bottom of the whole thing. They would remember the story of the soothsayers who, seeing that the hope of their gains was gone, seized upon two respectable individuals and thrust them into the inner prison. That was what the supporters of the resolution would like to do, because the hope of their gains was going. He trusted the motion would be defeated.

Mr. H H. Statham [*F.*] recommended that Mr. Wills should put his resolutions separately. He did not think he was right in his idea that there was more economy in the practice by outside architects than in the employment of an official architect. He believed in almost all cases it would be found that the official architect was employed, ostensibly at any rate, because it saved the ratepayers' money. He rather agreed that Mr. Wills was not very likely to get the information he wanted, and that if they got it they would find it against their own case; and, most of all, he thought that the Institute could not go and practically say to a number of public bodies, "If you employ our men instead of your officials, you will find it cheaper." That was certainly not a position for the Institute to adopt. But, on the other hand, with the first resolution he was entirely in accord, as he noticed that Mr. Wills had put it that it was in the interests of architecture. The true point of the matter had been entirely missed. He had the greatest possible respect for official architects that he had known, but as a rule they were not appointed for their artistic genius. They were appointed for other qualities, very important qualities: they were appointed generally for practical knowledge and business and administrative ability; but that did not prove that a man could produce the finest and most artistic building, and it was really in the interests of architecture, and, if they only knew it, in the interests of the public, that large buildings should be carried out by men who were selected, in competition or in any other way—selected in consequence, not merely of practical knowledge, but of architectural genius. That, he took it, was what was really at the bottom of Mr. Wills's first proposition, and in spite of the last speaker there were some of them who really did care more for architecture than for their pockets, and who did think that architecture was not best served by employing official architects on public buildings, for the reason that they were not originally elected to their posts primarily by reason of architectural genius. Therefore he entirely accepted the first proposition, and he thought if it was put separately it would be carried.

Mr. W. E. Riley [*F.*], Superintending Architect of Metropolitan Buildings and Architect of the London County Council, said he should like to congratulate the mover of the resolution on the very excellent case he had made with regard to his first and second points. He wished to move an amendment, and he thought it such an eminently reasonable one that he trusted it would bring the whole Meeting into accord. After the word "buildings" in the first clause, he proposed they should add the words "unless they have had an architectural training," so that the clause would read: "That the Royal Institute of British Architects considers it unadvisable in the interests of architecture that public officials should act as architects for public buildings, unless they have had an architectural training." That, he thought, put the resolution and the whole case of the Institute within the four walls of the Charter. The Institute was defined in the opening sentence of the Charter as an institution for the general advancement of civil architecture, and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith. The idea there was Art, and not the man. But the resolution in its present form was not intended wholly in the interests of Art, but in the interests of man as well. It was more in accord with the traditions and the spirit of this body that any such idea as aiming in a damaging way at a section of this Institute should be eliminated from any resolution which was put before them. It was unthinkable to him that the Institute should deliberately say that a man should study here, should take the various grades of architectural education that they promoted; that if he were fortunate enough to win an official position by public competition, the keenest competition they could possibly embark upon, the moment he was qualified, and had obtained his position by that competition, that he should not be at liberty thereafter to do anything whatever of importance in regard to his work. It was reducing the whole thing to an absurdity. He could not discriminate in his own mind between a competitor in that position and the competitor who won an open competition. There was no other profession which would be capable of taking up such an attitude. One might as well suggest that all the lawyers in the kingdom should combine against the town clerks, that they should not advise legally in any sense, and that the medical men should object to the medical officers practising in any sense. Who ever heard of the Institution of Engineers, when a bridge had to be built, opposing the Borough engineer to whose care it was committed? On the question of the æsthetic treatment of a bridge he should have as strong views as any member of the Institute. He had always understood that this was a protest against the engineers and surveyors who were not properly trained architects. He agreed with that. He was strongly opposed to that kind of public official doing any purely architectural work whatever. Many members of the Institute knew his views on that point, and knew that he had taken very strenuous and often very dangerous action in the direction of trying to mend matters in that particular. He thought that the International Congress last July had laid this ghost. The matter was well ventilated then, but the spectre had reappeared in another shape. The official questions on this subject which were formulated in 1904 were, he submitted with all respect to those who drafted them, hardly to the point. The official questions were, "Can you give any instances where architectural works executed by an official engineer or surveyor have proved unsatisfactory? If so, in what respect have they failed?" They had none of them any difficulty in arriving at a proper answer to that question. Then the next question "Is in your opinion the esta-

blishment of an official architect's department for local public works advantageous to the ratepayers, whether artistically or financially?" Then the third one was, "Assuming that an architect's department is required by a corporation or other authority, would you suggest that its work should be in any way restricted either to buildings of a certain class (*e.g.* those of utilitarian importance only)?" He would not read the rest, because it had no bearing on the question. He thought the great omission there was this: Why did they not ask the question as to what was the effect on architectural works which were carried out by an already properly constituted architectural department? Then when the Institute published at the end of the same year, December 1904, their *résumé* and recommendations, they said: "The Institute and Allied Societies respectfully and earnestly urge upon County and Municipal Authorities—(1) That architectural work be not placed in the hands of engineers or surveyors; (2) that where it is deemed desirable for architectural work to be carried out by a county or municipal official, such official shall be required to have passed the qualifying examinations of the Royal Institute of British Architects; (3) that the work of an official architect be restricted to structures of secondary importance, and that all buildings of a monumental character be entrusted to independent architects, to be selected in such a way as may seem best to the local authority." He should like to ask any architect well versed in definitions to give him a clear definition of "a structure of secondary importance." They must leave the public authorities, first of all having obtained their man, to a certain extent to be guided by the man who did the work. If he made flagrant errors, he would very quickly be criticised. He knew of no official, and if they were behind the scenes they would see that there was no official in existence —who did not have to prove his case twice over. He thought this question was one which might be left on the basis of the words he proposed to be added to the resolution, and which he formally moved. Before sitting down he would ask them to consider whether they were justified in saying that an official, because he was an official, should not be allowed to do public work of any kind. Over in the corner of the room were the busts of the two men who were probably the greatest officials who ever lived—Inigo Jones, who was for a great many years Surveyor of Government buildings, and Wren, who was an official for over fifty years. Both of those men did the best of their work as public officials. They believed now that at the close of Wren's life he was turned out of his position by a disgraceful cabal. He recommended members not to let history repeat itself.

Mr. J. J. Burnet [*F.*] confessed that he had sat with considerable impatience through the speech of the gentleman who seemed to have a brief for officials. He thought it was rather hard on their Institute that they should be parties to condemning any class. If there was one characteristic of their art more than another, it was the unexpectancy with which they might look for great talent where it had not been trained, and he was very sorry Mr. Riley had heard them discussing officialdom as a class matter against their practising brethren. He would go even further than Mr. Riley. He could not help feeling that the difference between the training of an able engineer and an able architect was extremely little. If the poet was in the one man he was at once the architect, and an architect better than even they could dream of; and he was therefore very sorry indeed to think that they should discuss in that room some motion which was condemnatory of a class. He thought the finer position for them to take up as members of the Institute was to see how they could improve, or offer opportunities of improvement in the art education of the officials. The official was a necessary factor, as far as they could see, in municipal economy, and he thought the Institute might quite well try to see how far it could render those who offered themselves for official positions better, and more sympathetic with architecture, than now. He thought on the whole that the only profitable discussion they could have on the matter was the economical one. He deprecated altogether the question which must inevitably be put down to them as a matter of personal practice, the question of how far they would as a profession get an advantage by refusing to all officials the right to carry out an architectural work. It presupposed that, no matter what independent architect took up the work, he would be better than an official. That he entirely denied. As a matter of good downright common-sense that was not the case. An official might turn out a Michael Angelo. He thought they should be prepared to meet their men, and not to say that a whole class was to be of a different status from themselves. Mr. Statham had said that what was best for the public was the best architecture. He only wished the public realised that. They did not realise it, and what they wanted, and what they wanted to do there, and they met for the purpose of doing it, was to encourage one another to do splendid architecture so far as in them lay; but it was not for the recognition they would get from the public. It was the anxiety to please their client that helped them in their practice. The merits of their art came to them. It was not true that an official was chosen because he did work like a Michael Angelo. Officials were asked to do municipal work because they were able to do it in a business-like and proper way. He would like very much, if he were in order, to second Mr. Riley's proposal. He felt that it was of the utmost importance; and he besought the younger men to give up the idea that they would ever enlarge their practice through resolutions in that room. Nothing but the most earnest attention to those qualities which the client was most likely to recognise—and those were not art qualities —would lead to their getting a practice, if that was what they wanted. If they had those qualities, and if they obtained the respect of their client, as practitioners they would have any amount of work to do. But let them do their work, stick to their art, and when they had a great work to do, refuse to do it if they had not time to do it right.

Mr. G. H. Fellowes Prynne [*F.*] said he thought the subject had been brought to a very fine issue by Mr. Riley's speech. He was in the happy position of agreeing to a great extent with the mover of the resolution and also with the opposers, and he most fully agreed with Mr. Riley's addition to the original motion. The addition of the words "architectural training" made it quite a different matter. Mr. Angel seemed to have lost the point of the resolution entirely. His idea was that they were opposed to all officials simply because they were officials. That was a mistake. The point of the resolution was the putting in an official to do architectural work at the public expense because he was an official, giving him a very large work which he might not be capable of carrying out architecturally correctly—that was what they wanted to avoid. A public official ought to be in the same position as an independent architect in regard to any large public building or monument to be built at the public expense; he ought to be a competitor, and he ought not to be simply employed because of his official position. That was the whole point. Then there was another danger—it did not apply entirely to a County Council or a local authority, though it did apply to a certain extent to local councils—that is, that men who were allowed to carry on a large private practice independently of their official practice forced the private practice into their own hands. Anybody who had knowledge of a public practice would know how that was done. It was simply done by putting difficulties in the way of those who had to come before them in their official capacity. He fully endorsed what Mr. Riley had said, that where architectural

education and architectural training had been the basis of any official's work, officialdom, as officialdom, ought not in any way whatever to deter that man from entering into competition with the whole of the profession. As very often happened, some of their best men were in official positions. He might say—though he did not wish to appear to be praising him to his face—that in Mr. Riley himself they had one who had done the County Council an immense deal of good. He had raised the whole tone of official architecture in London. Therefore he contended that because an official was an official he should not be deterred from the highest branch of his art.

Mr. H. W. Wills said he could not for a moment think of accepting Mr. Riley's amendment, but he accepted Mr. Statham's suggestion, that these two resolutions should be separated, and he was perfectly willing to put the first resolution only, with the following rider. His resolution as amended would read: "That the Royal Institute of British Architects considers it unadvisable in the interests of architecture that public officials should act as architects for public buildings," "it being obviously to the public interest that in all works requiring architectural ability the emulation and experience of private and properly qualified architects should be obtained."

Mr. Riley objected on a point of order that his own amendment was now before the Meeting, and submitted that it should be put to the vote.

Mr. Owen Fleming [A.] appealed to the Meeting to accept Mr. Riley's amendment unanimously. Public official architects were just as much architects as any other members of the Institute. He should like to ask for this vote to be unanimous on wider grounds. He thought that official architects and private architects had been at arms' length for a good many years, and if they could in this matter start a new policy and work together to secure the end they all had in view, he felt that they should all be benefited.

Mr. H. Dare Bryan [F.], of Bristol, said that they felt that officialdom in the provinces always brought a status with it, and unfortunately the official became an official and nothing more. They felt that what they must have was the spirit of emulation, which they could only get with competition.

After some further discussion, Mr. Riley's amendment was put from the Chair, and declared carried by an overwhelming majority.

The resolution, as amended, was then put as a substantive motion, and carried.

Mr. Wills's second resolution being before the Meeting, there was a general call for its withdrawal, and Mr. Hubbard, the seconder, having withdrawn his support, the resolution was not voted upon.

The Safety of St. Paul's.

Mr. Mervyn Macartney [F.], Surveyor to the Fabric of St. Paul's Cathedral, has made the following communication to the Press:—

"Having now submitted my report on the condition of St. Paul's Cathedral, the Dean and Chapter, in view of the grave importance of the matter, have decided, on my recommendation, to invite Mr. T. E. Collcutt, the President of the Royal Institute of British Architects, Sir Aston Webb, R.A. [*Past President*], and Mr. John Belcher, A.R.A. [*Past President*], to form a committee of inspection as to the condition and circumstances of the structure.

"The public may therefore be assured that their report and inspection will be an impartial one."

It is stated that the Committee will report, amongst other things, upon the effect which the construction of the proposed L.C.C. sewer may have upon the Cathedral. Mr. John Belcher, A.R.A., interviewed on this point by a representative of the *Evening Standard*, says:—

"I am strongly of the opinion that the sewer should not be proceeded with near St. Paul's before the new circumstances have been inquired into. It is well known that a serious though gradual settlement has been taking place in the foundations of the Cathedral. The foundations, of course, are on the gravel, and not on the London clay, which makes the danger all the greater. It is time that something was done to strengthen them.

"In the present condition of the structure I cannot see how it can be otherwise than detrimentally affected by the heavy tunnelling operations which the laying of a 7 ft. 6 in. sewer will entail.

"I have had a great deal to do with the City, and I find that even buildings which have their foundations in the London clay are affected by the construction of tubes, no matter how many precautions may be taken.

"A sewer of the dimensions contemplated by the County Council will cause almost as great a disturbance to the soil as a tube. It is bound, in my opinion, to divert the watercourse to some degree, and the effect of this upon a building resting on gravel is not a matter that can be lightly contemplated, especially as the building in this case is of such historic importance.

"I think the question is one which would justify the appointment of a commission, and if this step were taken I am sure the Institute of Architects would willingly afford all the assistance in its power."

Joint Reinforced Concrete Committee.

Mr. H. D. Searles-Wood [F.], Hon. Secretary of the Joint Reinforced Concrete Committee,* sends the following note:—The Committee after various meetings resolved to delegate the preliminary

* The Committee, which was formed last March, is constituted as follows:—

Chairman: Sir Henry Tanner, I.S.O.

Representatives of the R.I.B.A.: Messrs. T. Walmisley, William Dunn, Max Clarke, H. D. Searles Wood.

District Surveyors' Association: Messrs. Thomas Henry Watson and E. Dru Drury.

Institute of Builders: Messrs. Benjamin I. Greenwood and Frank May.

Incorporated Association of Municipal and County Engineers: Messrs. A. E. Collins and J. W. Cockrill.

War Office: Colonel C. B. Mayne and Major E. M. Paul, R.E.

Admiralty: Mr. C. H. Colson, M.Inst.C.E., Director of Works Department.

Other members: Professor W. C. Unwin, F.R.S., Mr. Charles F. Marsh, and Colonel F. Winn.

work of investigation and research, and the drafting of certain parts of its report, to three sub-committees, which were accordingly constituted to deal with three branches of the inquiry, viz.: Resistance to Fire (presided over by Mr. T. H. Watson [*F.*]), Materials (presided over by Col. C. B. Mayne, R.E.), Formulæ (presided over by Professor W. C. Unwin [*H.A.*]). These sub-committees have held many meetings, and their reports are so far advanced that it is hoped they will be submitted to the consideration of the General Committee at an early date. By the kindness of Sir Henry Tanner, Chairman of the Committee, and others, the Report of the French Commission du Ciment Armé, the Report of the Swiss Society of Architects and Engineers, the Prussian and Austrian Government Rules, and other valuable documents have been procured for the consideration of the Committee, and the translation and study of these and of the great mass of literature and records of tests upon reinforced concrete has taken considerable time. The Committee's report, which is looked for with great interest, may be expected in the spring of next year.

Architecture and the Decorative Arts.

In an article in the *Glasgow Herald* on the new Edinburgh School of Art, Professor Baldwin Brown [*H.A.*], discussing the equipment of the School, says that the association of sculpture and architecture in the school suggests that the architectural treatment of plastic groups and reliefs should form a special branch of the instruction of the modeller. One cannot forget how close and fruitful was the connection of these arts at the great artistic epochs when Greek temples and Gothic cathedrals and Florentine palaces were being reared and adorned, and much instruction drawn from these and other examples could be usefully conveyed in a school equipped, as will be the case in Edinburgh, with a well-chosen selection of casts.

The position of architecture in Edinburgh (Professor Baldwin Brown continues) may be considerably affected for good by the educational agencies now to be set on foot. The art itself does not need encouragement, for the builder is always with us, and in the form of semi-public structures of the type of the bank or insurance office Scotland and Edinburgh have made of recent years a very creditable display. In educational facilities, however, Edinburgh has been behindhand in not providing for the younger members of the profession the proper means of study for the examinations of the Royal Institute of British Architects. A year or so ago, in view of the project for a new school of art, a representative committee of these drew up a memorial to the Town Council, contrasting the educational advantages provided in other large towns in Great Britain with those obtainable in Edinburgh. While recognising to the full the value of the technical instruction given in the Heriot-Watt College, and the more advanced artistic training provided in the School of Applied Art, with which the name of Sir R. Rowand Anderson is specially connected, the memorialists pointed out that, owing to the dearth of systematic teaching on the historical side of architecture, students preparing for the R.I.B.A. examinations were being "driven to expensive correspondence classes of doubtful value, or to unaided private reading." Clearly there is here an important field of work for the new school. The material is good, for it was remarked some years ago what notable success in competitions for the R.I.B.A. prizes and scholarships was falling to the lot of the students of the Edinburgh School of Applied Art, and there is no doubt that the broadening and deepening of the theoretical and historical study of architecture, which must follow from the institution of the new curriculum, will raise the whole tone of the junior section of the profession in Edinburgh.

If painting need to be let alone, sculpture to be fostered, and architecture to be equipped, the decorative and industrial arts, in many of their branches, would be the better for something like a complete transformation of their present aims and methods. The term "decorative and industrial arts" covers a wide field, and it is not possible to give a distinct connotation to each of the two adjectives. If, however, we take a certain number of the so-called "crafts," we find that some of them are more closely associated with architecture than others; and in a rough list comprising, say, mural painting, architectural carving and plaster-work, stained-glass windows, tapestry, mosaic tiling, wrought-iron work, furniture, pottery, beaten silver, enamels, those mentioned earlier would rather come under the term "decorative," the later ones under the term "industrial." The first desideratum for the work more properly called decorative is that it be controlled by architecture, and not by the ideals of the painter of pictures. The first desideratum for objects of industrial art is that considerations of material and technique control their general construction and their treatment in detail. Let us see how these principles may be applied in a school of art, the managers of which have a free hand and ample means.

The principle of the supremacy of architecture applies to all the arts above enumerated, but most especially to arts like mural painting or wall mosaic. The purely pictorial element in these is always tending to become too obtrusive, owing to the great popularity and fascination of the picture. Tapestry, which in Flanders in the early sixteenth century was perfect in its decorative effect, became in its later "Gobelins" form a laboured imitation of a picture. The stained-glass window had at one time become a mere picture transparency, though in the present day, especially in some parts of Scotland, a far nobler treatment of the material has been reintroduced. The crudely pictorial character of many modern mosaics is painfully obvious. Just because painting, in the form of the modern picture, is so fascinating an art, alluring by its very difficulties as well as by the infinite variety of its effects, it would be well to keep its influence away from the practice of the artistic crafts in general. This is another reason for that segregation of the painter of pictures, which has been spoken of above as an ideal that can hardly be in practice attained. To most people this may seem like a mere fad, but the advantage, both to painting itself and to the other arts, of the arrangement suggested has forced itself upon some minds as a result of a dispassionate survey of the general history of the arts in past ages. In any case, all that is practicable should be done in a school like the one proposed to strengthen the position of architecture as the mistress-art over the subsidiary branches of decoration.

The other principle of the importance of material and technique applies, like the last, to all branches of the decorative and industrial arts, though it becomes of most importance in connection with branches like wrought-iron work, silver chasing, and keramics. The principles and practice of all these crafts have been taught for half a

century past in what used to be known as "schools of design." Now there is no question relating to education in the arts that has been of late years more canvassed than the question of the proper treatment of what is termed "design." In the schools of art, under what used to be known as the South Kensington system, it was assumed as a fundamental principle that the decorative and industrial arts were dead; that there was no longer in them the vital power of production, but that what they had accomplished in the past could be imitated by the modern worker if he were supplied with the proper materials. These materials consisted largely in specimens of ornament copied from the productions of past ages, that were to be employed by the modern craftsman to turn objects of utility into works of art. The examples of ornament were treated like old-fashioned botanical specimens that are dried, dissected, classified, and laid up in the drawers or cases of a museum. The museum in this instance was Owen Jones's folio, *The Grammar of Ornament*, on the plates of which are, as it were, gummed down an endless assortment of specimens, good, bad, and indifferent, that could be picked out and used over again for modern purposes. Ornament in this way became "historic," and it was understood that by "applying" it to objects of industry they could be made to look artistic. Against this once orthodox creed William Morris and many others have lifted up their voices, and have laboured to show that the artistic character of an object of industrial art does not depend on the application to it of ornament, but resides in the thing itself, in its general form and character, the method of its working, and the treatment of its surfaces. If it be a work of art at all, it is a work of art from the very beginning, and it may be completed as such without the use of ornament. When there is ornament, this should be a matter of vital growth from within outwards, not of "application" from without as a sort of after-thought. In other words, in the industrial arts the foundation of artistic effect is to be sought in structure, material, and technique; and the modern worker must design in and through these if his productions are to have any of the life and interest which belonged to such things in the olden time.

The moral of this is that the era of merely paper-and-pencil work in design should now be closed, and the student brought as far as possible into touch with materials and processes. He should be taught in the first place to see that—to take one craft as an example—almost all forms of pottery of an unsophisticated kind are good, and are often very beautiful in colour, texture, and detail, without the limits of the material having been in the least exceeded; while, on the other hand, there exists an enormous mass of productions in which the true conditions of keramic art are ignored or contradicted, and the result is an elaborate artificial product, like anything rather than a bit of genuine pottery. Thus Italian majolica ware, fine in its way as it is, represents a false ideal, because it exhibits pictures of figure subjects on round plates, the very essence of which is that they may be turned indifferently any way, and have not the fixed limits of up and down which such a picture needs for its setting. Wedgwood ware carries the unreality of these pseudo-keramics to an extreme.

In order that the student may naturally design in accordance with the genius of his material and with the methods of its manipulation, he should be brought into touch with the material, and made to understand the technical processes through which it comes to receive its perfected form. Hence the workshop should be in every school an adjunct to the class-room. This does not, of course, mean that the student himself is to become an expert in working metals or glass, though it would do him good to try his hand at the processes, but it means that connected with the school there shall be a smith's forge, a potter's wheel, a chaser's bench, a glass-stainer's and window-fitter's shop, a carver who can show what the grain of wood means, and that from time to time an intelligent workman shall demonstrate in the actual material and process. To see—or, still better, to learn by a little personal experience—how the heated iron actually behaves under the blows of the hammer will teach a learner more about designing for wrought iron than any number of books or lectures of a purely theoretical kind.

A designer for the decorative and industrial arts should conceive his work as a whole in the spirit of an architect, and in detail as a practical tradesman, and should repress any tendency to paint, or model, or carve, or emboss, or embroider naturalistic pictures on whatever comes under his hand. Recent years have witnessed a notable advance towards sound views on the proper treatment of these arts, and these views are now enthroned in the high places of artistic education in London. It is for the new Edinburgh school to follow a sagacious course, avoiding all extremes, and to favour all those methods of instruction which give the learner an interest in his work as a thing of life.

The Holt Travelling Studentship at Liverpool University.

Professor C. H. Reilly [*A.*], Director of the School of Architecture at the University of Liverpool, sends particulars of the Travelling Studentship, value £50, established by Miss Emma G. Holt for a period of three years, and awarded annually by the Senate of Liverpool University on the recommendation of the Faculty of Arts. The Scholarship is open to all students who have attended full architectural courses at the University, whether for Certificate or Degree, during at least two Sessions, and is awarded for (1) Measured Drawings submitted by the student; (2) Designs on set subjects executed in the Architectural Studio of the University. The holder has to spend at least ten weeks on his tour, which must be arranged subject to the approval of the Professor of Architecture. On the recommendation of the Faculty of Arts, the Senate of the University may award an exhibition or exhibitions in lieu of the Scholarship, to be held under similar conditions. The first holder of the Studentship is Mr. Maurice Lyon, B.A., who has gone to Verona to measure and study the works of San Michele in that city.

MINUTES. III.

At the Third General Meeting (Business) of the Session 1906–07, held Monday, 3rd December 1906, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair; 43 Fellows (including 10 members of the Council), and 55 Associates (including 1 member of the Council), the Minutes of the Meeting held 19th November [p. 60] were taken as read and signed as correct.

The following Fellows attending for the first time since their election were formally admitted by the Chairman—viz. Fred Rowntree, Henry Vaughan Lanchester, and Hubert Christian Corlette.

The Hon. Secretary announced the decease of Henry Allen Prothero, of Cheltenham, *Fellow*, elected 1896; and

William Mackison, F.S.A.Scot., of Dundee, *Fellow*, elected 1865.

The Hon. Secretary formally acknowledged receipt of books presented to the Library, and on his motion a vote of thanks was passed by acclamation to the donors.

The Secretary announced the results of the Preliminary, Intermediate, Final, and Special Examinations held by the Institute during the month of November.

The following candidates were elected to membership by show of hands under By-law 9:—

As Fellows (77).

WILLIAM ADAMSON (Cape Town).
GEORGE LENNOX BEATTIE, Assoc.M.Inst.C.E. (Edinburgh).
GEORGE BELL (Glasgow).
EDWARD M. BLAKE (Wellington, N.Z.).
JOHN HENRY BLIZARD, A.M.I.C.E. (Southampton).
DETMAR JELLINGS BLOW [*Pugin Student* 1892].
CECIL CLAUDE BREWER [*Pugin Student* 1896].
WILLIAM LOBIN TRANT BROWN.
RUDOLPH MAXIMILIAN BUTLER (Dublin).
WILLIAM HENRY DASHWOOD CAPLE (Cardiff).
FRANK JAMES CHAMBERS CARRUTHERS, J.P. (Dumfries, N.B.)
MARCUS EVELYN COLLINS.
ALBERT SELMAR CONRAD (Adelaide, S. Australia).
WILLIAM COOPER (Huddersfield).
WILLIAM MORTON COWDELL (Leicester).
HARRY BULKELEY CRESWELL.
WILLIAM CRICHTON (Wellington, N.Z.).
JAMES DAVIDSON, J.P. (Coatbridge, N.B.).
WILLIAM LIONEL EVES [*A.* 1891].
JAMES FASNACHT.
WILLIAM JOHN FENNELL, F.R.S.A. Ireland (Belfast).
HENRY WILLIAM FINCH.
EDWIN WOLLASTON FRITCHLEY, F.R.G.S. (Bombay).
JOHN GAFF GILLESPIE (Glasgow).
GEORGE W. HAMILTON-GORDON [*A.* 1886]; Director of Public Works, Orange River Colony.
CLAUDE HARRISON.
FRANK MORRISH HARVEY [*A.* 1892].
PETER LYLE HENDERSON (Edinburgh).
ROBERT ALLSEBROOKE HINDS.
GEORGE STANLEY HUDSON (Durban, S. Africa).
ARTHUR RUTHERFORD JEMMETT.
WILLIAM JAMES KEMP.
SYDNEY DECIMUS KITSON, M.A. Cantab. (Leeds).
WILLIAM GEORGE BLACKMORE LEWIS [*Grissell Medallist* 1878].
JAMES HECTOR McKAY (Wellington, N.Z.).
JOHN CAMPBELL McKELLAR, J.P. (Glasgow).
CHARLES RENNIE MACKINTOSH (Glasgow).
WILLIAM HUNTER McNAB (Glasgow).
DUNCAN McNAUGHTAN (Glasgow).
ARCHIBALD MACPHERSON, F.S.A. Scot. (Edinburgh).
NINIAN MACWHANNELL (Glasgow).
HENRY EDMUND MATHEWS.
STANLEY JAMES MAY.
GRAHAM NICHOLAS (Halifax).
WILLIAM THOMAS OLDRIEVE, F.S.A. Scot., Principal Architect for Scotland to H.M. Office of Works.
JAMES WALLACE PATON (Durban, S. Africa).
JAMES PIGGOTT PRITCHETT (Darlington).
EDWARD KEYNES PURCHASE.
WALTER REID (Johannesburg, S. Africa).
DAVID ROBERTSON, A.R.S.A. (Edinburgh).
WALTER WOOD ROBERTSON, F.S.A. Scot. (Edin.)
JAMES SALMON (Glasgow).
JONATHAN SIMPSON (Bolton).
ERNEST WILLMOTT SLOPER (Johannesburg).
ARTHUR POLE SMALL (Ross, Herefordshire).
ARNOLD DUNBAR SMITH [*Godwin Bursar* 1903].
ALFRED STEINTHAL (Manchester).
HAROLD SUDLOW (Calcutta).
ALFRED SWASH (Newport, Mon.).
HARRY RAMSAY TAYLOR (Edinburgh).
ISAAC TAYLOR (Manchester).
Sir ALFRED BRUMWELL THOMAS.
RICHARD WELLINGS THOMAS (Llandrindod Wells).
JAMES BAIRD THOMSON (Glasgow).
WILLIAM AITKEN THOMSON (Glasgow).
GEORGE ALEXANDER TROUP (Wellington, N.Z.).
WILLIAM JOSEPH WAGHORNE (Calcutta).
WILLIAM SNOWBALL WALKER (Hull).
WILLIAM THOMAS MYNORS WALKER.
JOHN WATERSON (Johannesburg).
JOHN WATSON (Edinburgh).
WILLIAM FLEMING WILKIE (Dundee).
JAMES LEONARD WILLIAMS.
CECIL LOCKE WILSON (Cardiff).
GEORGE EDWARD WITHERS.
ERNEST WOODHOUSE (Manchester).
PERCY SCOTT WORTHINGTON, M.A. Oxon. [*Inst. Medallist* (*Essays*) 1889; *A.* 1890] (Manchester).

As Associates (57).

DENNIS BAMFORD [*Probationer* 1902, *Student* 1903].
HENRY BLACKADDER [*Probationer* 1900, *Student* 1904].
ARTHUR GEORGE BRAY [*Probationer* 1901, *Student* 1905] (Blackburn).
ALBERT EDWARD BROOKER [*Probationer* 1898, *Student* 1902].
ARCHIBALD BULLOCH [*Probationer* 1902, *Student* 1903].
WILLIAM WELLESLEY JAMES CALTHROP [*Probationer* 1901, *Student* 1904].
HARRY REGINALD COALES [*Special Examination*].
OWEN HANWORTH COCKRILL [*Probationer* 1899, *Student* 1902] (Great Yarmouth).
TILLEARD HORACE OSMAN COLLINGS [*Probationer* 1895, *Student* 1904] (Brighton).
WILLIAM HENRY HOWARD COOKE [*Probationer* 1901, *Student* 1902].
REGINALD WENTWORTH ALFRED JAMES COSWAY [*Probationer* 1898, *Student* 1901].
HARRY BEECROFT DOWNS [*Probationer* 1901, *Student* 1904] (Yorks).
CHARLES WILLIAM EATON [*Probationer* 1901, *Student* 1903] (Bolton).
ERNEST HARCOURT EDLESTON [*Probationer* 1899, *Student* 1902] (Nantwich).
GEORGE ARTHUR FARRAR [*Probationer* 1900, *Student* 1902] (Manchester).
FRANCIS HENRY FITZGERALD [*Special Exam.*]
FRANK JAMIESON FORSTER [*Probationer* 1897, *Student* 1901].
FRANK BURWELL FOSTER [*Probationer* 1901, *Student* 1902] (Weston-super-Mare).
JAMES BLACK FULTON [*Tite Prizeman* 1899, *Institute Medallist* (*Drawings*) 1900, *Soane Medallist* 1902, *Grissell Medallist* 1903, *Special Examination*].
EDWARD HALL GANDY [*Probationer* 1902, *Student* 1904] (Wolverhampton).
LAURENCE MURSELL GOTCH [*Probationer* 1899, *Student* 1902] [*Institute Medallist* (*Drawings*) 1904].
ARTHUR CHRISTOPHER GOULDER [*Probationer* 1900, *Student* 1903].
JAMES WILLIAM HEPBURN [*Grissell Medallist*, 1904, *Probationer* 1902, *Student* 1904].
GEORGE BERNARD HOLLAND HOOLE [*Probationer* 1891, *Student* 1900].
PERCY CARTWRIGHT HOY [*Special Examination*] (Manchester).

FRANCIS JOHN HUMPHRY [*Probationer* 1899, *Student* 1902].
DAVID BATEMAN HUTTON [*Probationer* 1900, *Student* 1902] (Glasgow).
ERNEST THOMAS JAGO [*Special Examination*].
EDWIN RIDDELL KENNEDY [*Probationer* 1899, *Student* 1902] (Belfast).
CLIFFORD COPEMAN MAKINS, B.A. Cantab. [*Probationer* 1903, *Student* 1904].
HUGH JOHN COLE MARSHALL [*Probationer* 1900, *Student* 1902].
HARRY MOSS [*Probationer* 1898, *Student* 1905] (Bolton).
SYDNEY MOSS [*Probationer* 1900, *Student* 1903] (L'pool).
JOSEPH EDWARD MUNDELL [*Probationer* 1899, *Student* 1901] (Dorset).
HAROLD FRANKLYNE MURRELL [*Probationer* 1900, *Student* 1902].
JOHN NEWTON [*Special Examination*].
JOHN PARLETT [*Probationer* 1898, *Student* 1900].
STANLEY HIGHFIELD PENLINGTON [*Probationer* 1899, *Student* 1901] (Bristol).
GEORGE EDWARD PHILLIPS [*Probationer* 1901, *Student* 1903].
HARRY ARNOLD ROWBOTHAM [*Probationer* 1897, *Student* 1899].
JOSEPH RYCROFT [*Special Examination*] (Bradford).
WALTER PUCKERING RYLATT [*Probationer* 1901, *Student* 1903] (Leeds).
JASPER PHILIP SALWEY [*Probationer* 1904, *Student* 1905].
VICTOR GEORGE SANTO [*Probationer* 1901, *Student* 1903] (Shrewsbury).
WILLIAM PEEL SCHOFIELD [*Probationer* 1903, *Student* 1904] (Leeds).
HENRY SHACKLETON [*Probationer* 1901, *Student* 1903] (Keighley).
JAMES SMITH [*Probationer* 1895, *Student* 1903] (Glasgow).
FRANCIS ADAMS SPRULES [*Probationer* 1899, *Student* 1902].
FREDRICK GEORGE STOCKDALE [*Probationer* 1898, *Student* 1902].
CHARLES REGINALD THICKPENNY [*Probationer* 1896, *Student* 1900].
WILFRED IRWIN TRAVERS [*Probationer* 1901, *Student* 1904].
EDWARD HOLSWORTH WALKER [*Probationer* 1899, *Student* 1901].
EWART G. WALKER [*Probationer* 1901, *Student* 1903].
BERNARD MICHAEL WARD [*Special Examination*] (Liverpool).
BRYAN WATSON [*Probationer* 1901, *Student* 1904].
BERTIE CECIL WESTWICK [*Probationer* 1902, *Student* 1904 (Mansfield, Notts).
AUSTIN WOODESON [*Special Examination*] (Ceylon).

The Secretary announced that by a resolution of the Council under By-law 20 the following had ceased to be members of the Royal Institute—viz. John Medland, *Fellow*; Henry Melancthon Pritchard, *Associate*; Walter Henry Steadman, *Associate*; William Vaughan, *Associate*.

The Chairman, in accordance with notice, brought forward a proposal from the Council with reference to nomination of candidates for the Fellowship, pointing out that By-law 3, as amended at the General Meeting of the 29th February 1904, not having yet received the sanction of the Privy Council, the old by-law remained still in operation; and that the Council suggested that pending the settlement of the larger questions involved in the revision of the Charter and By-laws (adopted in principle by the General Body and referred to the Council for a report) the Council should continue to act under the old by-law until such time as all the changes could be made together, the Council undertaking meanwhile to act in accordance with the spirit of the proposed by-law until it came regularly into force. A number of nominations to the Fellowship had, however, lately been made from the Colonies and elsewhere, some of which had had to be referred back for further information, and, in fairness to the candidates, the Council proposed to deal with these on the old lines if their suggestion met with the approval of the Meeting.

The Chairman having moved the adoption of the Council's suggestion, the motion was seconded by Mr. H. C. Corlette [*F.*], and discussed.

Finally, a suggestion of the Chairman that the amended By-law 3 should not begin to operate until the end of 1907 was accepted by the Meeting, and on the motion of Mr. Owen Fleming [*A.*], seconded by Mr. W. Henry White [*F.*], it was

> RESOLVED, That the date 31st December 1906 in the resolution passed by the General Body on the 29th February 1904 be extended to 31st December 1907.

Mr. Lacy W. Ridge [*F.*], in accordance with notice, brought forward a resolution with reference to the Public Health Acts (Building By-laws) Bill 1906 now before Parliament, and having explained the provisions of the Bill and moved his resolution, which was seconded by Mr. J. Douglass Mathews [*F.*], the Meeting unanimously

> RESOLVED, That the Royal Institute of British Architects is of opinion that the provisions of "The Public Health Acts (Building By-laws) Bill 1906," which has already passed the House of Lords and is now sent to the House of Commons, will, when enacted, prove advantageous in facilitating building operations in rural districts.

Mr. Herbert W. Wills [*A.*], in accordance with notice, brought forward the following resolutions:

1. "That the Royal Institute of British Architects considers it unadvisable in the interests of architecture that public officials should act as architects for public buildings."
2. "That the Council of the Institute should obtain statistics of the sums paid to official architects, surveyors, and engineers, and their staffs, with a view to instituting a comparison between such sums and the fees which would be paid to outside architects for similar work, in order that, if the latter charges compare favourably with the former, they should approach those public bodies who already employ, or are contemplating employing officials, with a view to securing the abandonment of such a system."

Mr. Wills, having read a Paper urging reasons for action to be taken as he proposed, the Resolutions were seconded by Mr. George Hubbard, F.S.A. [*F.*], and discussed. Eventually the Resolutions were taken separately, and an amendment moved by Mr. W. E. Riley [*F.*], seconded by Mr. J. J. Burnet [*F.*], adding at the end of the first Resolution the words "unless they have had an architectural training," was put from the Chair and carried by a large majority. Whereupon the Resolution as amended was put as a substantive motion, and the Meeting

> RESOLVED, That the Royal Institute of British Architects considers it unadvisable in the interests of architecture that public officials should act as architects for public buildings, unless they have had an architectural training.

The feeling of the Meeting being expressed against the second Resolution, and Mr. Hubbard, who had seconded it, having withdrawn his support, the Meeting rose without voting upon it.

The proceedings then closed, and the Meeting separated at 10 p.m.

USUI·CIVIUM·RAB·DECORI·URBIUM

THE COMPOSITION AND STRENGTH OF MORTAR.

By W. J. Dibdin, F.I.C., F.C.S., &c.

Read before the Royal Institute of British Architects, Monday, 17th December 1906.

THE composition of ordinary lime mortar in relation to the resulting strength is a subject of great importance; yet the attention it has received leaves so much to be yet ascertained that the author feels, in submitting the following facts, that the several points dealt with are not only interesting, but important in the highest degree.

The by-laws of the London County Council regarding the composition of mortar merely specify that it shall be composed of freshly burned lime and clean sharp sand or grit without earthy matter, in the proportions of one of lime to three of sand or grit, but contain no reference to strength, leaving it to be inferred that if the composition is within the strict definition the strength must necessarily be practically constant—quite apart from the particular purpose for which the mortar is to be employed. Further, no "factor of safety" seems to have been considered, so that, whether the mortar be used for a 10-foot wall or one of 100 feet in height, the by-laws equally apply without any precautions.

It may be assumed for the present purpose that a given wall would exert a pressure of 15 lb. to the inch, and if a factor of safety of 5 be taken as reasonable, then it will be necessary to employ a mortar which will resist a crushing weight of $15 \times 5 = 75$ lb. to the inch; and if this is secured the composition of the mortar is of secondary importance; whilst, on the other hand, if the composition be ever so exact, according to an arbitrary standard, it will be inefficient if the strength be too low. For instance, a mortar was carefully prepared with good greystone lime and clean washed sand in the proportions of one part by volume of unslaked lime and three parts of sand; at the end of one month the crushing strength was 38 lb. per cubic inch and only 63 lb. at three months. This result, with many others, is set out in the attached tabular statement of the experiments, Series I., and clearly indicates the danger of mere composition safeguards.

On the other hand, in Series II. are given results obtained by mortar purposely made in direct contradiction to the by-laws—viz. sand to which clay had been added, the proportions of clay varying from 2½ per cent. to 10 per cent.—and this mixture of clay and sand was used in varying proportions up to five volumes to one volume of unslaked lime. At the end of one month the crushing strengths per cubic inch were as follows:—

Sand used	Vol. Sand	Vol. Lime	Crushing Strength, 1 month (lb. per cubic inch)
Neat Brown Leighton Buzzard	5	1	42 lb.
" " " " + 2½ per cent. clay .	5	1	74 "
" " " " 5 " " .	5	1	128 "
" " " " 7½ " " .	5	1	183 "
" " " " 10 " " . .	5	1	176 "

These considerations show the necessity for a careful review of the facts.

In order to ascertain these the series of experiments fully set out in the attached tables were conducted. They are necessarily insufficient for a final solution of all the problems which present themselves in the course of such an investigation, but as a preliminary series, involving the making and testing of fourteen hundred briquettes and blocks, they are sufficiently definite for discussion.

The lime used for the initial set of tests A to D in Series I. with Standard Leighton Buzzard sand, as received, had the following composition :—

	Unslaked	Slaked
Silica	5·73	4·11
Oxide of iron and alumina	3·55	2·53
Calcium oxide	87·40	63·08
Carbonic acid	0·12	1·64
Water of hydration, &c.	3·20	28·64
	100·00	100·00

One cubic foot weighed 36·8 lb., and made 1·53 cubic foot slaked lime.

After the briquettes and blocks had been made it was seen that it would simplify the work if a larger quantity of lime was dry-slaked and used for all subsequent tests. This was accordingly done, the sample of lime, invoiced as best "gray lime," being slaked, and kept in an iron box. The analysis of the unslaked lime gave the following factors :—

	Unslaked
Silica, insoluble	1·42
" soluble	6·83
Oxide of iron and alumina	4·75
Calcium oxide	82·70
Carbonic acid	1·25
Sulphuric acid	0·27
Water of hydration, &c.	2·78
	100·00

1 bushel weighed (unslaked) 54 lb.
1 cubic foot " " 42 "
1 " " after slaking measured 1·77 cubic foot.

The sands employed were kindly supplied for the purpose of the experiments by Mr. Franklin, Surveyor to the Luton Rural District Council, who sent guaranteed samples of Leighton Buzzard sands : —and three samples of Lewisham sands, kindly supplied by Messrs. H. & G. Taylor. The clay used for the purpose of mixing with the sands in certain of the experiments was ordinary London red clay.

The discussion of the results may be conveniently taken under the following headings:—

1. Effect of washed sand of varying degrees of fineness.
2. „ „ varying quantities of clay added to the sand.
3. „ „ washing out the clay naturally present in sand.
4. „ „ varying the time when the mortar was used after being first made.
5. Strength of raw materials employed.
6. Effect of the variation of the percentage of voids in the sand used.
7. „ „ composition on spalling.

I. EFFECT OF VARYING THE FINENESS OF THE SAND.

The results of these tests are set out in Series I. For convenience of reference the average results of the tensile and crushing strengths of the briquettes and blocks are set out in the table of average results. The first set, A to D, were made with "Leighton Buzzard Standard Sand," as received. The remainder of the tests were made with the various fractions of this sand which were obtained by washing, drying, and sifting, the meshes varying from $\frac{1}{8}$ inch to below $\frac{1}{75}$ inch. In each case the tests were made in five sets, the variation in each consisting in using different volumes of sand to one volume of unslaked greystone lime—viz. one sand to one lime, two sand, &c., up to five sand to one lime. In every instance three briquettes were made, the breaking fraction being one inch square, and three blocks were used for crushing tests. These blocks or cylinders were conveniently made 1 inch in height and 1·12 inch diameter, thus having practically an area equal to 1 inch square, and may be taken for comparative purposes as being equal to 1-inch cubes. The details of the respective tensile and crushing tests are set out in the tables. Where possible the tests were made at intervals of fourteen days, one month, and three months after the making of the mortar. Notwithstanding the great care taken to ensure constant conditions in the preparation of the respective samples, varying results will necessarily be obtained; but the averages taken over a prolonged and numerous series must afford reliable indications, especially when, as frequently happens, the *minimum* results in one set will be above the *maximum* in others.

For convenient reference I have set out the results of the average crushing tests at three months in diagram form (Diagram 1). On reference to this it will be seen that mortar made with the proportions of one volume of sand to one volume of lime with the sand unwashed as received had a crushing strength of 150 lb. per cubic inch. When the sand was increased to two volumes the strength fell to 92 lb. per inch. With three volumes sand it was only 52 lb., and with four volumes 53 lb. This experiment alone clearly indicates that an arbitrary limit of three to one is unsatisfactory, as it would prevent the use of the "excess" of lime, which in this case gave three times the crushing strength of that obtained when the by-law proportion of three to one was employed.

In all the subsequent sets of this series the sand was used washed and graded as shown in the tables. The diagram clearly indicates the fact that when the proportions were from one or two of sand to one volume of lime the strength was greater than when three volumes of sand were employed in all those cases in which the sand was coarser than $\frac{1}{50}$ inch; but when the grading was from $\frac{1}{50}$ inch and below, the strengths of the various makes were practically equal—viz. from 58 to 66 lb. per inch.

The tests for tensile strength are in the same ratio, and clearly indicate that with these particular sands an *excess* of lime in contravention of the by-laws was a distinct advantage.

SERIES II.—THE ADDITION OF CLAY TO SAND.

These tests were very interesting and important. It must be clearly stated at once that in the term "clay" no reference whatever must be inferred to ordinary mould or other extraneous mixtures, but simply and solely to the clay naturally present with ordinary and otherwise clean sand, or to good sound red London clay.

The details of the respective tests are similar to those described under Series I., and the average results of the one month's tests are set out in Diagram II. The first set was made with a sample of Brown Leighton Buzzard sand, as received. As in the former instance, the strength was greatest with the maximum quantity of lime—viz. one volume of sand to one volume of lime, viz. 123 lb. per inch—and gradually fell to 42 lb. for five volumes sand to one volume lime. So that a mortar made with this sand in the proportions of three sand to one lime would have had a strength of only 69 lb. per inch. In the second set of tests with 2½ per cent. added clay, the minimum strength obtained was 74 lb. per inch with five sand to one lime. When the clay was increased to 5 per cent. the corresponding figure was 128 lb., rising to 183 lb. for 7½ per cent. of clay and 176 lb. for 10 per cent. clay, whilst a maximum result of 223 lb. was obtained with 10 per cent. clay and two volumes sand to one lime.

SERIES III.—EFFECT OF REMOVING THE CLAY NATURALLY PRESENT IN SAND.

As it might be assumed that the influence of the clay artificially added would not be the same as of that naturally present, the experiments detailed in Series III. were made, in which trial briquettes and blocks were prepared with the natural sand as received, and after the removal of its adhering clay by washing. Three sands were employed—two with clay and one without. The first two were Lewisham grey and Lewisham red, the third being Lewisham fine white sand. From the diagram it will be seen how the strength of the mortar fell to about one-half its crushing strength when made with the same sand which had been washed to remove its adhering clay, whilst the very fine white sand free from clay gave practically minimum results.

In discussing these effects it must not be overlooked that mortars made with sand containing clay undergo a certain degree of shrinkage on drying, and it will be a matter for discussion as to how far this may be permitted, if at all, in order to utilise the resulting increase of strength. As the greater part of the shrinkage takes place within the first twenty-four hours following the "setting" of the mortar, it will doubtless be of lesser importance than that which might occur at a later date. It would, indeed, seem desirable that a special series of tests on actual brick walls should be made with clayed mortars in order to set the point upon actual experimental data on a working scale, although doubtless there are many architects of great experience who will be able to contribute valuable information on the point.

SERIES IV.—EFFECT OF VARIATION OF TIME BEFORE MORTAR IS USED AFTER BEING MIXED.

The results given in the tabulated Series IV. show the effect of time, up to eleven days, between the moment when the mortar was mixed and that at which the briquettes and blocks were prepared. From these it would seem that up to seven days there is an increased strength, but after that time—that is to say, after the mortar had once set—the effect of a second breaking up was distinctly detrimental, although better results were even then

obtained than at any time before the first setting. The strength at one month gradually rose to 116 lb. per square inch with mortar which had been mixed for seven days, and fell when the mortar had been standing for eleven days to 83 lb.

SERIES V.—STRENGTH OF RAW MATERIALS, *i.e.* LIME AND SAND.

It was thought that it would be interesting to repeat the tensile and crushing tests upon the lime only and on the sands. These tests were therefore made as a matter of interest, and as affording general comparison. The results, as might be anticipated, gave impracticable strengths.

SERIES VI.—EFFECT OF VARIATION OF THE PERCENTAGE OF VOIDS IN THE SAND.

Upon abstracting those tests in which the voids in the sand used had been determined the following results were obtained :—

Sand used	Voids per cent.	One Month	
		Crushing Strength lb. per sq. inch	Tensile Strength lb. per cube inch
Lewisham No. 1	23	154	41
„ No. 2	28	155	32
„ „ washed	30	88	36
Leighton Buzzard, 10 per cent. clay	32	202	31
Lewisham No. 1 washed	34	61	33
Leighton Buzzard 5 per cent. clay	36	154	33
Lewisham No. 3	40	70	28

These results are necessarily variable, but from those in which the natural sands only were used, as the washing and addition of clay evidently interfered, the following sequence was obtained :—

Sand used	Voids per cent.	One Month	
		Crushing Strength lb per sq. inch	Tensile Strength lb. per cube inch
Lewisham No. 1	23	154	41
„ „ 2	28	155	32
„ „ 3	40	70	28

From these facts there is clear evidence that under given conditions the strength of the mortar increases as the percentage of voids decreases. But under other conditions this rule does not hold. It is unfortunate that the importance of this point was not fully realised until a large number of the samples of mortar had been prepared, otherwise the above results might have been considerably enlarged.

The method of ascertaining the percentage of voids was as follows :—

MEASUREMENT OF VOIDS IN SAND BY SPECIFIC GRAVITY METHOD.

Experiment 1: *Standard Leighton Buzzard Sand.*

A 100 c.c. flask was dried and found to weigh 27·950 grammes. It was then filled with dry sand to the 100 c.c. mark and again weighed = 195·25 grammes = 167·30 grammes

sand. The sand was then turned out into a dry beaker and the flask partly filled with distilled water, and the sand then gradually poured back into the flask. As the water rose above the 100 c.c. mark the excess was removed until the whole of the sand was returned to the flask and the water-line stood exactly at the mark, the sand having slightly shrunk in volume. The weight was now found to be 231·550 grammes, which, minus the weight of the flask, indicated 167·300 grammes of sand and 36·300 grammes of water, or, in terms of *volume*, 100 c.c. sand to 36·3 c.c. water; and as the number of c.c. of water represent the voids in the sand these necessarily equalled 36·3 per cent. Shortly this factor is arrived at immediately by deducting the weight of the flask filled with the sand from that of the flask filled with the sand and water, viz.—

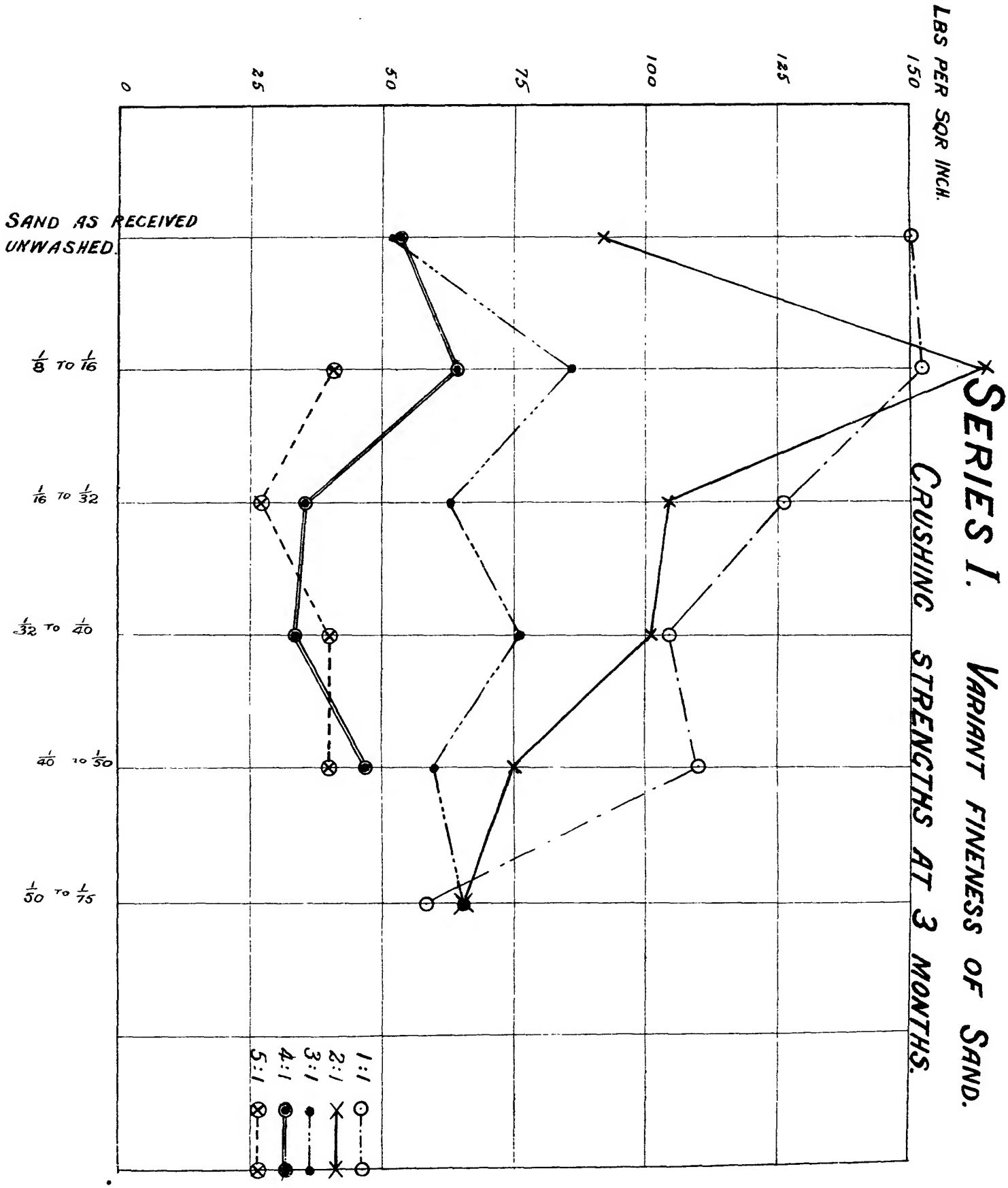
Flask + Sand + Water	231·55
Flask + Sand	195·25
Voids per cent. .	36·30

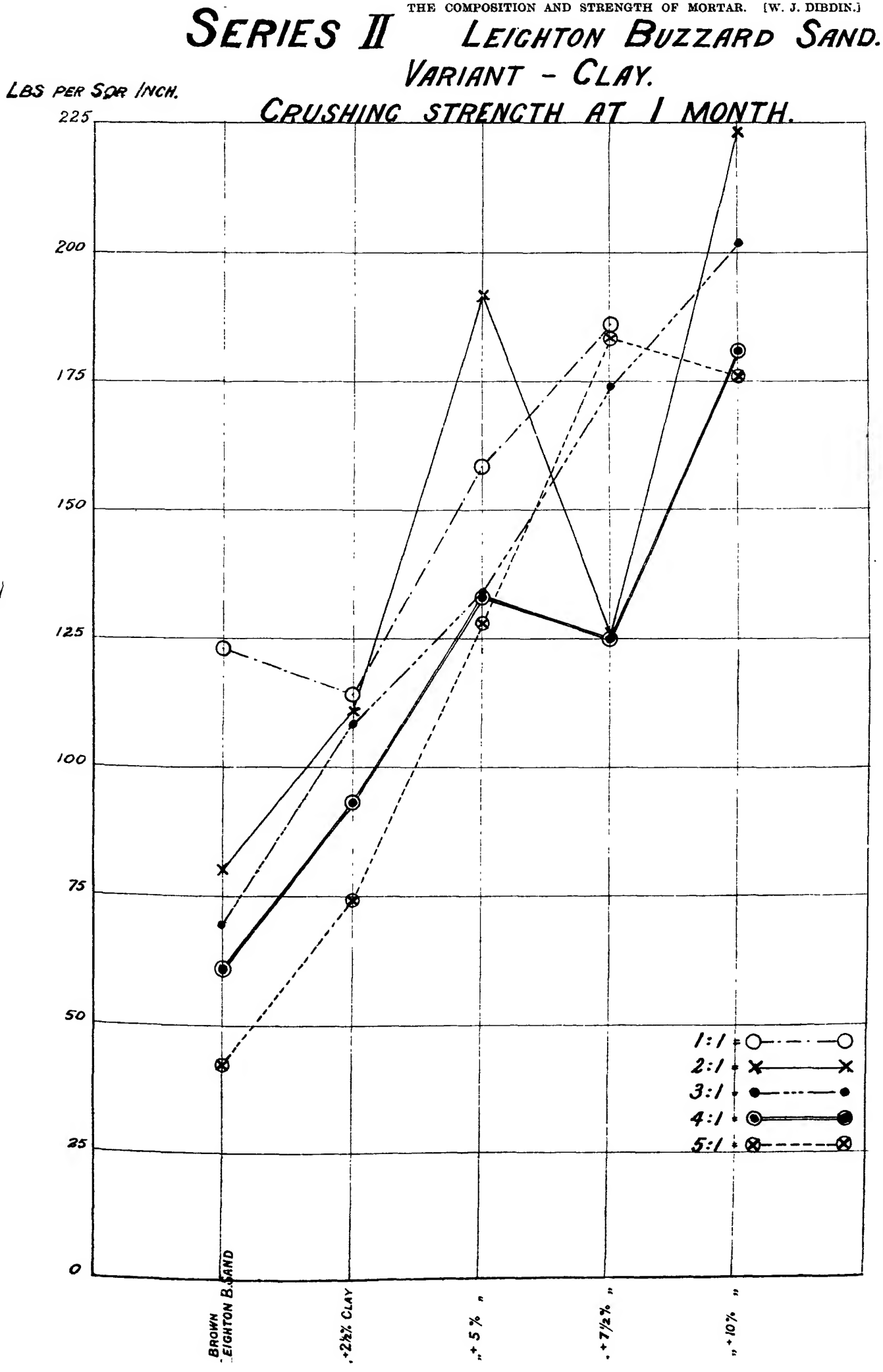
For the purpose of strict accuracy a correction should be made for the difference in volume between the dry and the wet sand. This is done by adding sufficient sand to the flask after the weighing of the sand + water to raise the volume of sand to the mark: a weighing is now made, when in the case cited the increase due to the sand was found to be 2·21 grammes, which added to the first weighing of flask and sand increased the result from 195·25 to 197·46. The excess of water thus raised above the water-line was then thrown out and a weighing again made, when it was 232·770 grammes. The difference between these two results gave 35·31 per cent. for the voids, a difference which is negligible for practical purposes.

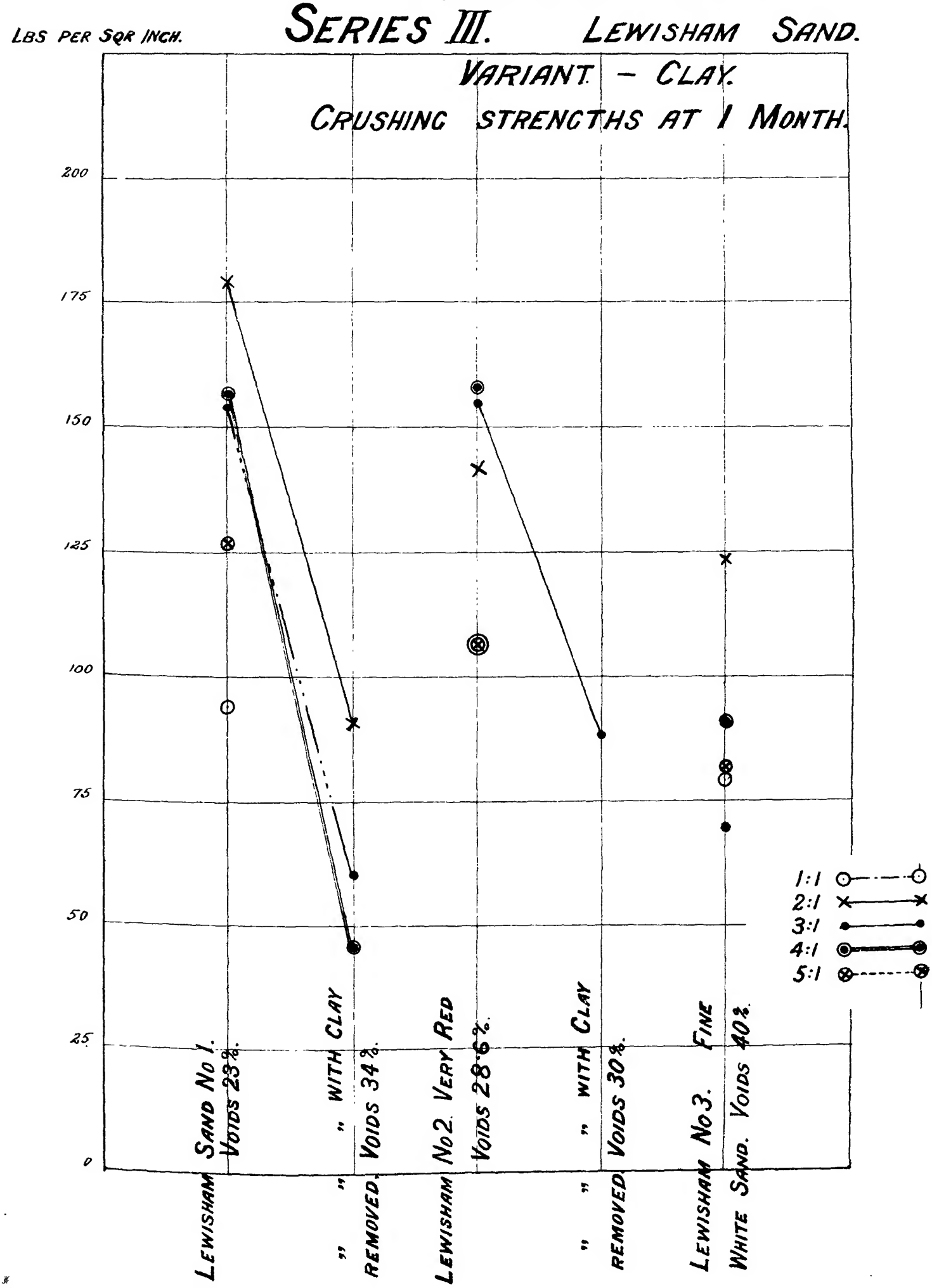
The same result may be arrived at on the basis of the specific gravity. In the above case the sp. gr. of the sand was found to be 2·626. The weight of 1,000 c.c. of the dry sand was 1,673 grammes, and $\frac{1673}{2626} = 0{\cdot}637$, which, deducted from 1,000, gives 36·3 for the percentage of voids, which agrees with the above for dry sand. If the sand is weighed wet then we have $\frac{1695}{2626} = 0{\cdot}646$, which deducted from 1·000 gives 35·4.

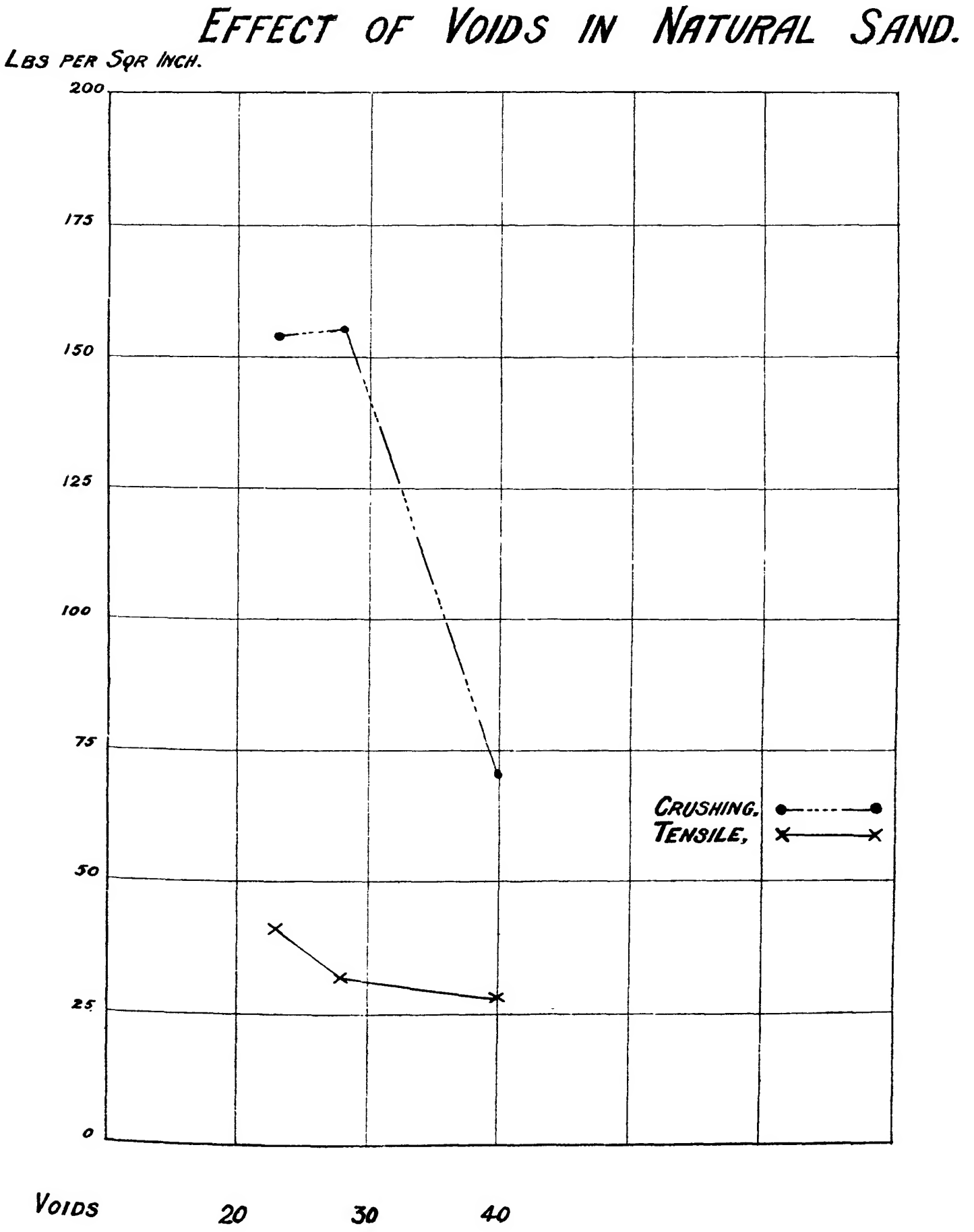
The most simple method is therefore to place the sand in a glass cylinder marked in separate divisions up to 200 measures. Run the sand in its natural condition into the cylinder, so that when shaken down into its naturally compressed condition it measures 100 divisions. Then remove the sand and fill up to the 100 mark with clean water. Then gradually pour the sand into the water and shake down. Note the height to which the water rises and the volume the sand now measures under water. The total volume thus measured *minus* the sum of the volumes of the water taken and the volume of sand as measured under water gives the voids in terms of percentages volume thus:—

Sand taken	=	100·0 c.c.
Water „	=	100·0 „
Volume of mixed sand and water	=	163·7 „
„ „ sand under water	=	99·0 „
∴ Voids = Sand under water + water		199·0 „
Less volume of mixed sand and water . . .		163·7 „
		35·3 per cent.


SERIES I. VARIANT FINENESS OF SAND.
CRUSHING STRENGTHS AT 3 MONTHS.
LBS PER SQR INCH.
150
125
100
75
50
25
0
SAND AS RECEIVED UNWASHED.
1/8 TO 1/16
1/16 TO 1/32
1/32 TO 1/40
1/40 TO 1/50
1/50 TO 1/75
1:1
2:1
3:1
4:1
5:1


SERIES II LEIGHTON BUZZARD SAND.
VARIANT - CLAY.
CRUSHING STRENGTH AT 1 MONTH.
LBS PER SQR INCH.
225
200
175
150
125
100
75
50
25
0
1:1
2:1
3:1
4:1
5:1
BROWN LEIGHTON B. SAND
+2½% CLAY
+5%
+7½%
+10%


SERIES III. LEWISHAM SAND.
VARIANT. – CLAY.
CRUSHING STRENGTHS AT 1 MONTH.
LBS PER SQR INCH.
200
175
150
125
100
75
50
25
0
LEWISHAM SAND No 1. VOIDS 23%.
" " WITH CLAY REMOVED. VOIDS 34%.
LEWISHAM No 2. VERY RED VOIDS 28·6%.
" " WITH CLAY REMOVED. VOIDS 30%.
LEWISHAM No 3. FINE WHITE SAND. VOIDS 40%.
1:1
2:1
3:1
4:1
5:1


EFFECT OF VOIDS IN NATURAL SAND.
LBS PER SQR INCH.
200
175
150
125
100
75
50
25
0
CRUSHING.
TENSILE,
VOIDS
20
30
40

Spalling.

When clean sand is used spalling happens practically with over-limed mortars; in other cases the blocks burst in the crushing tests without notice. When clay was used with the sand, spalling steadily occurs. The method adopted for determining the pressure at which spalling occurred was to observe the time in seconds at which the spalling commenced, and also that at which crushing took place. As the pressure was steadily increased throughout the test by the constant rate of addition of a stream of shot, a simple rule-of-three calculation gave the pressure at which spalling occurred. The results in each case are set out in detail in the tables, the figure "0" indicating that no spalling took place. The fact that when clay was present ample notice of crushing was given by preliminary spalling may afford a valuable index in practice of the danger point; but this is a practical point more fitted for discussion by the architect than the chemist.

Conclusion.

From the above results of a fairly exhaustive series of tests, so far as the limits of the experiments extend, it seems clear that the strength of a mortar depends far more upon the physical character of the materials employed than has hitherto been fully realised. If the usual prescription of three to one be rigidly adhered to, the mortar may have in certain cases only one-third of the strength of that which might be obtained with as widely varying proportions as five of sand to one of lime, as already indicated; and it would appear to be desirable that the *strength* as ascertained by crushing rather than arbitrary proportions should be the *criteria*. The tests can be made with great facility, and should be employed in all cases. Of course it is not suggested that any and every admixture should be sanctioned, but where the materials are clean and sound and free from dirt (such as unwashed road sweepings, dustbin refuse, old mortar, &c.) no unreasonable objection should be taken to their use provided that they yield a mortar having strength sufficient for the work in hand. If a factor of safety of five be sufficient for any work, it is obviously unnecessary to ask for one of ten, as the strength upon that basis must necessarily increase with the increment of the load. On the other hand care should be exercised to secure such factor of safety as may be required in any particular case.

Effect of Addition of Clinker.

It is a common practice to add hard clinkers crushed in a mill to the sand, sometimes in even equal quantities. Experiments conducted on the same lines as those detailed above confirm the general conclusions in regard to fineness—varying quantities of sand and grit to lime, &c.—and show that mortars made with good hard clinker and sand may be used with safety.

I have to express my acknowledgment of the valuable assistance rendered in the course of this investigation in the preparation and testing of the large number of briquettes and blocks by Mr. R. G. Grimwood, F.I.C., &c., and my son Mr. F. J. A. Dibdin.

RESULTS OF MORTAR ENQUIRY, 1906.

SERIES I.—VARIANT, FINENESS OF SAND.

Laboratory Number	Description: Sand	Description: Sand: Grading	Description: Lime: Volumes of Sand	Description: Lime: Volumes of Unslaked Lime	Tensile Strength (Lb. per Square Inch): Fourteen Days	Tensile Strength: One Month	Tensile Strength: Three Months	Crushing Strength (Lb. per Cube Inch): Fourteen Days: Spalled	Fourteen Days: Crushed	One Month: Spalled	One Month: Crushed	Three Months: Spalled	Three Months: Crushed
A	Leighton Buzzard standard sand	standard $\frac{1}{16}$ inch to $\frac{1}{30}$ inch	1	1	28, 26, 25 — 26	—	30, 30, 25 — 28	—	107, 97, 94 — 99	—	—	—	149, 179, 122 — 150
B			2	1	29, 33, 31 — 31	—	30, 30, 35 — 32	—	119, 75, — — 97	—	—	—	90, 81, 106 — 92
C			3	1	—	—	20, 20, 25 — 22	—	—	—	—	—	52, 58, 45 — 52
D			4	1	—	—	15, 15, 17, 14 — 15	—	—	—	—	—	65, 44, 50 — 53
E 1	Leighton Buzzard Washed	$\frac{1}{4}$ inch to $\frac{1}{16}$ inch	1	1	—	—	—	31, 0, 62 — 87	62, 94, 106	120, 0, 120 — 146	150, 150, 137	0, 111, 142 — 152	147, 158, 150
E 2			2	1	28, 23, 20 — 24	30, 40, 35 — 35	—	0, 69, 0 — 99	94, 78, 125	0, 82, 5 — 74	50, 97, 75	0, 0, 0 — 164	182, 131, 178
E 3			3	1	—	—	—	0, 0, 0 — 59	59, 73, 44	0, 0, 0 — 56	50, 62, 56	0, 0, 0 — 86	76, 95, 87
E 4			4	1	26, 30, 10 — 22	—	—	0, 0, 0 — 46	50, 50, 37	0, 0, 0 — 33	40, 37, 22	0, 0, 0 — 64	67, 60, 65
E 5			5	1	—	—	—	0, 18, 15 — 33	25, 34, 40	0, 0, 0 — 34	44, 31, 28	0, 41, 0 — 41	36, 45, 41
F 1	Leighton Buzzard Washed	$\frac{1}{4}$ inch to $\frac{1}{32}$ inch	1	1	18, 21, 32 — 24	38, 38, 40 — 39	48, 48, 46 — 47	0, 94, 75 — 101	116, 100, 87	120, 108, 103 — 127	137, 128, 115	0, 68, 0 — 126	126, 102, 148 — 126
F 2			2	1	24, 18, 18 — 20	22, 17, 20 — 20	20, 26, 34 — 27	0, 0, 0 — 63	78, 53, 59	59, 60, 77 — 72	65, 65, 84	105, 76, 91 — 104	125, 87, 100
F 3			3	1	44, 2, 20 — 27	20, 18, 15 — 18	24, 20, 24 — 23	50, 0, ? — 55	59, 40, 65	36, 0, 0 — 38	44, 25, 44	0, 0, 49 — 63	52, 81, 55
F 4			4	1	16, 6, 14 — 12	18, 17, 23 — 19	26, —, 10 — 18	0, 0, 0 — 36	44, 28, 37	0, 0, 0 — 35	50, 31, 25	0, 0, 0 — 35	32, 42, 31
F 5			5	1	5, 12, 10 — 9	10, 12, — — 11	8, 10, — — 9	0, 0, 0 — 28	28, 31, 25	0, 0, 0 — 19	15, 18, 22	0, 0, 0 — 27	34, 15, 30
G 1	Leighton Buzzard Washed	$\frac{1}{4}$ inch to $\frac{1}{8}$ inch	1	1	32, 28, 30 — 30	30, 35, — — 32	46, 42, 40 — 43	68, 81, 100 — 102	90, 97, 118	90, 101, 76 — 126	131, 103, 144	0, 0, 0 — 104	78, 125, 110
G 2			2	1	20, 18, 30 — 23	20, 25, 25 — 23	46, 42, 44 — 42	56, 47, ? — 64	71, 75, 47	0, 0, 0 — 67	94, 72, 56	45, 0, 75 — 101	99, 84, 118
G 3			3	1	18, 6, 16 — 13	15, 12, 20 — 16	28, 10 — 19	0, 25, 31 — 55	62, 43, 59	0, 0, 0 — 64	78, 40, 75	0, 0, 0 — 76	95, 71, 62
G 4			4	1	10, 18, 12 — 13	10, 12, 10 — 11	3	0, 0, 0 — 29	31, 28, 28	0, 0, 16 — 41	44, 44, 34	0, 0, 0 — 33	33, 33, 33
G 5			5	1	8, 10, 6 — 8	under 10 average —	—	0, 0, 0 — 31	31, 37, 25	0, 0, 0 — 30	28, 40, 22	0, 0, 0 — 40	40, 10, 40

SERIES I.—VARIANT, FINENESS OF SAND (*continued*).

Specimen Number	Description: Sand	Description: Grading	Volumes of Sand	Lime: Volumes of Unslaked Lime	Tensile Strength (Lb. per Square Inch): Fourteen Days	Tensile Strength: One Month	Tensile Strength: Three Months	Crushing Strength (Lb. per Cube Inch): Fourteen Days Spalled	Fourteen Days Crushed	One Month Spalled	One Month Crushed	Three Months Spalled	Three Months Crushed
H 1	Leighton Buzzard Washed	$\frac{1}{40}$ inch to $\frac{1}{50}$ inch	1	1	18, 18, 16 — 17	25, 25, 25 — 25	30, 38, 38 — 35	?, 50, 0	68, 53, 50 — 57	57, 0, 0	59, 87, 87 — 78	0, 0, 84	91, 128, 110 — 110
H 2			2	1	34, 26, 24 — 28	30, 25, 30 — 28	50, 50, 30 — 43	0, 0, 0	78, 62, 68 — 69	36, 0, 0	44, 50, 47 — 47	45, 0, 75	64, 75, 86 — 75
H 3			3	1	6, 10, 14 — 10	25, 25, 20 — 23	30, 30, 22 — 27	0, 0, 0	53, 40, 50 — 48	0, 0, 0	40, 47, 53 — 47	0, 0, 0	54, 60, 65 — 60
H 4			4	1	6, —, — — 6	15, —, — — 15	—	0, 0, 0	31, 25, 37 — 31	0, 0, 0	28, 22, 28 — 26	0, 0, 0	40, 50, 50 — 47
H 5			5	1	10, 4, 6 — 7	under 10 average	—	0, 0, 0	62, 34, 22 — 39	0, 0, 0	44, 28, 19 — 30	0, 0, 0	47, 27, 46 — 40
I 1	Leighton Buzzard Washed; Voids, 35 per cent.	$\frac{1}{50}$ inch to $\frac{1}{75}$ inch	1	1	—	—	—	18, 18, 25	37, 43, 50 — 43	44, 0, 67	50, 81, 72 — 68	0, 0, 0	62, 46, 66 — 58
I 2			2	1	20, 20, 26 — 22	30, 28, — — 29	—	50, 43, 47	84, 71, 62 — 72	0, 0, 0	81, 72, 72 — 75	0, 0, 0	66, 69, 64 — 66
I 3			3	1	—	—	—	43, ?, 31	50, 50, 43 — 48	0, 0, 0	62, 62, 59 — 61	0, 0, 31	89, 55, 54 — 66
I 4			4	1	14, 14, 16 — 15	12, 14, 15 — 14	—	0, 0, 0	26, 25, ? — 25	0, 0, 27	37, 32, 30 — 33	—	—
I 5			5	1	—	—	—	0, 0, 0	31, 30, 25 — 29	0, 0, 0	31, 37, 31 — 33	—	—
J 1	Leighton Buzzard Washed	Passed $\frac{1}{75}$ inch	1	1	—	—	—	0, 0, 0	44, 69, 66 — 60	48, 46, 0	72, 57, 72 — 67	—	—
J 2			2	1	—	—	—	0, 57, 0	91, 62, 94 — 82	78, 0, 0	87, 52, 62 — 67	—	—
J 3			3	1	—	—	—	0, 0, 11	19, 22, 34 — 25	0, 0, 24	28, 27, 27 — 27	—	—
J 4			4	1	—	—	—	0, ?, 0	25, ?, 28 — 26	0, 0, 15	19, 15, 19 — 18	—	—
J 5			5	1	—	—	—	0, 0, 0	65, 62, 68 — 65	0, 0, 0	37, 37, 37 — 37	—	—

SERIES II.—VARIANT, CLAY.

Specimen Number	Description: Sand	Grading	Volumes of Sand	Lime: Volumes of Unslaked Lime	Tensile Strength (Lb. per Square Inch): Fourteen Days	Tensile Strength: One Month	Tensile Strength: Three Months	Crushing Strength (Lb. per Cube Inch): Fourteen Days Spalled	Fourteen Days Crushed	One Month Spalled	One Month Crushed	Three Months Spalled	Three Months Crushed
K 1	Leighton Buzzard Brown	Weight. / Vol.: $\frac{1}{4}$ . . trace / trace; $\frac{1}{8}$ . . 4 / 0·3 %; $\frac{1}{16}$ . . 14 / 1·0 %; $\frac{1}{32}$ . . 60 / 5·0 %; $\frac{1}{40}$ . . 111 / 7·0 %; $\frac{1}{50}$ . . 1,285 / 87·0 %; $\frac{1}{75}$ . . 110 / 7·3 %; Pass $\frac{1}{75}$ . . 25 / 3·6 %; 1,609 / 111·2 %	1	1	30, 30, 30 — 30	30, 30, 36 — 32	50, 45, 45 — 47	81, 0, 117	85, 142, 120 — 116	61, 125, 102	104, 130, 135 — 123	0, 65, 78	137, 110, 97 — 115
K 2			2	1	25, lost, 20 — 22	28, 26, 22 — 25	35, —, 25 — 30	0, 0, 0	75, 78, 77 — 77	0, 70, 0	61, 85, 95 — 80	95, 0, 0	104, 104, 47 — 85
K 3			3	1	30, 22, 20 — 24	32, 33, 31 — 32	30, 30, 32 — 31	9, 0, 0	75, 96, 75 — 82	0, 0, 0	79, 79, 50 — 69	0, 0, 0	53, 87, 93 — 78
K 4			4	1	32, 27, 18 — 26	18, 18, 26 — 21	38, 40, 20 — 33	0, 0, 0	62, 54, 59 — 58	0, 0, 0	65, 59, 59 — 61	0, 0, 0	68, 50, 63 — 60
K 5			5	1	15, 15, lost — 15	18, 16, 14 — 16	20, 20, 20 — 20	0, 0, 0	54, 47, 50 — 50	0, 0, 0	42, 39, 44 — 42	0, 0, 0	31, 33, 34 — 33

SERIES II.—VARIANT, CLAY (*continued*).

Laboratory Numbers	Description: Sand	Description: Sand Grading	Description: Lime Volumes of Sand	Description: Lime Volumes of Unslaked Lime	Tensile Strength (Lb. per Square Inch): Fourteen Days	Tensile Strength: One Month	Tensile Strength: Three Months	Crushing Strength (Lb. per Cube Inch): Fourteen Days Spalled	Fourteen Days Crushed	One Month Spalled	One Month Crushed	Three Months Spalled	Three Months Crushed
L 1	Leighton Buzzard Brown +2·5 per cent. Clay ground to pass $\frac{1}{75}$ inch	As "K" + Clay	1	1	36, 45, 45 - 42	55, 40, 38 - 44	100, 80, 85 - 88	58, 72, 73	84, 79, 107 - 90	82, 68, 101	100, 102, 139 - 114	95, 116, 117	145, 152, 126 - 140
L 2			2	1	20, 20, 20 - 20	30, 25, 24 - 26	32, 22, 48 - 34	0, 0, 0	107, 91, 96 - 98	0, 0, 0	121, 97, 114 - 111	0, 0, 80	75, 56, 96 - 76
L 3			3	1	30, 30, 35 - 32	33, 20, 34 - 29	52, 50, 45 - 49	0, 0, 0	71, 70, 99 - 80	0, 0, 0	101, 95, 128 - 108	0, 0, 0	75, 1[illegible], 112 - 114
L 4			4	1	30, 30, 28 - 30	18, 22, 36 - 25	48, 40, 50 - 46	0, 0, 0	72, 77, 67 - 72	0, 0, 0	80, 107, 91 - 93	0, 0, 0	6[illegible], 8[illegible], 17[illegible] - 90
L 5			5	1	32, 30, 28 - 30	32, 36, 43 - 37	50, 60, 60 - 57	0, 0, 0	55, 78, 66 - 66	0, 0, 0	86, 65, 72 - 74	0, 0, 0	7[illegible], 6[illegible], 6[illegible] - 67
V 1	Leighton Buzzard +5 per cent. Clay. Voids, 36 per cent.	As "K" + Clay	1	1	20, 40, 36 - 32	58, 56, 30 - 48	100, 110, 110 - 107	65, 73, 61	115, 130, 122 - 122	0, 0, 126	154, 178, 143 - 158	135, 143, 163	210, 237, 25[illegible] - [illegible]
V 2			2	1	36, 32, 35 - 34	34, 50, 38 - 41	65, 80, 110 - 85	0, 0, 0	185, 199, 159 - 181	143, 0, 0	171, 205, 203 - 192	257, 171, 0	300, 200, 150 - 217
V 3			3	1	28, 35, 30 - 31	26, 28, 34 - 33	90, 42, 64 - 65	0, 0, 0	105, 107, 121 - 111	103, 101, 113	119, 156, 127 - 134	85, 86, 0	130, 125, 161 - 139
V 4			4	1	40, 50, 35 - 42	60, 32, 50 - 47	92, 76, — - 84	71, 0, 0	89, 90, 84 - 88	74, 107, 107	106, 150, 142 - 133	167, 65, —	175, 13[illegible], — - 153
V 5			5	1	30, 36, 38 - 35	60, 60, 60 - 60	80, 68, — - 74	113, 0, 0	122, 87, 97 - 102	91, 0, 88	120, 148, 117 - 128	82, 0, 0	151, 112, 81 - 108
W 1	Leighton Buzzard +7·5 per cent Clay	As "K" + Clay	1	1	30, 20, 20 - 23	66, 20, 30 - 39	65, 65, 65 - 65	0, 0, 0	149, 169, 117 - 145	111, 0, 170	180, 193, 184 - 186	173, 150, 140	191, 175, 210 - 192
W 2			2	1	36, 32, 30 - 32	50, 34, 50 - 45	90, —, — - 90	0, 0, 0	101, 89, 90 - 93	117, —, —	126, —, — - 126	119, 146, 125	153, 187, 200 - 180
W 3			3	1	40, 46, 40 - 42	72, 32, 60 - 55	120, 92, 122 - 111	0, 0, 0	135, 153, 97 - 128	143, 145, 95	151, 159, 212 - 174	300, 216, 187	311, 264, 240 - 272
W 4			4	1	29, 30, 18 - 26	42, 26, 20 - 29	72, 74, 70 - 72	74, 0, 0	84, 65, 107 - 86	69, 127, 101	78, 191, 115 - 125	100, 0, 0	159, 102, 105 - 122
W 5			5	1	24, 46, 46 - 38	60, 40 - 50	64, 60 - 62	85, 0, 0	117, 87, 150 - 118	0, 162, 136	200, 188, 160 - 183	148, 180, 206	198, 204, 228 - 207
X 2	Leighton Buzzard +10 per cent. Clay Voids, 32½ per cent	As "K" + Clay	2	1	28, 28, 52 - 36	40, 42, 50 - 43	95, 90, 70 - 85	0, 0, 163	137, 156, 177 - 157	0, 177, 0	221, 200, 247 - 223	210, 222, 0	247, 270, 287 - 2[illegible]
X 3			3	1	34, —, 28 - 31	52, 70, 35 - 52	90, 130, 40 - 90	127, 147, 109	142, 184, 163 - 163	210, 0, 0	238, 180, 187 - 202	0, 152, 0	190, 206, 252 - 228
X 4			4	1	38, 42, 54 - 45	50, 38, 38 - 44	92, 102, 8 - 91	0, 0, 43	136, 161, 77 - 125	0, 182, 104	102, 210, 120 - 181	217, 0, 0	242, 207, 250 - 233
X 5			5	1	46, 33, 48 - 43	80, 50, 65 - 65	88, 88, 88 - 88	109, 0, 100	134, 87, 134 - 118	0, 0, 154	203, 160, 165 - 176	0, 191, 147	274, 246, 183 - 234

SERIES III.—LEWISHAM SANDS. VARIANT, CLAY.

Description				Tensile Strength (Lb. per Square Inch)			Crushing Strength (Lb. per Cube Inch)					
Sand			Lime				Fourteen Days		One Month		Three Months	
Sand	Grading	Volumes of Sand	Volumes of Unslaked Lime	Fourteen Days	One Month	Three Months	Spalled	Crushed	Spalled	Crushed	Spalled	Crushed
N 1, N 2, N 3, N 4, N 5 — Lewisham No. 1. Voids, 23 per cent.	Retained on ¼″ 1·0 %; " ⅛″ 1·0 %; " 1/16″ 1·1 %; " 1/32″ 1·0 %; " 1/40″ 29·7 %; " 1/50″ 45·0 %; " 1/75″ 17·3 %; Passed 1/75″ . 96·1 %	1	1	22, 26, 25 } 24	24, 18, 26 } 23	70, 80, 70 } 73	52, 43, 44	78, 69, 53 } 67	82, 81, 0	92, 91, 98 } 94	115, 122, 0	140, 175, 160 } 158
		2	1	—, 32, 28 } 30	30, 36, 42 } 36	100, 80, — } 90	0, 0, 0	178, 122, 110 } 137	128, 140, 0	165, 175, 190 } 179	0, 145, 0	230, 175, +294 } +233
		3	1	33, 32, 30 } 32	42, 42, 38 } 41	60, 70, — } 65	0, 0, 0	87, 90, 80 } 86	0, 0, 84	240, 98, 123 } 154	148, 0, 0	159, 106, 110 } 125
		4	1	38, 35, 40 } 38	40, 42, 46 } 43	60, 50, — } 55	93, 0, 94	100, 108, 103 } 104	130, 0, 0	153, 185, 132 } 157	0, 0, 0	212, 138, 175 } 175
		5	1	40, 39, 34 } 38	48, 50, 53 } 50	55, 60, 60 } 58	0, 0, 0	117, 107, 72 } 99	0, 0, 0	121, 148, 112 } 127	105, 0, 0	119, 163, 111 } 131
R 2, R 3, R 4 — Lewisham No. 1 with clay removed. Voids, 34 per cent.	Retained on ¼″ 0·0 %; " ⅛″ 2·0 %; " 1/16″ 1·1 %; " 1/32″ 0·7 %; " 1/40″ 0·8 %; " 1/50″ 28·7 %; " 1/75″ 55 0 %; Passed 1/75″ . 14·2 %; 102·5 %	2	1	30, 30, 30 } 30	30, 36, 24 } 30	35, 40, 55 } 43	0, 0, 0	98, 110, 110 } 106	0, 62, 80	97, 89, 88 } 91	0, 82, 75	126, 106, 100 } 111
		3	1	35, 30, 25 } 30	35, 35, 30 } 33	65, 60, 45 } 59	0, 0, 0	77, 61, 58 } 65	37, 0, 0	46, 43, 95 } 61	0, 0, 0	72, 100, 89 } 87
		4	1	15, 20, 18 } 18	22, 27, 25 } 24	40, 30, 45 } 38	0, 0, 0	37, 34, 35 } 35	26, 0, 65	38, 29, 70 } 46	0, 0, 40	44, 44, 50 } 46
P 1, P 2, P 3, P 4, P 5 — Lewisham No. 2. Very red. Voids, 28·6 per cent.	Retained on ¼″ 0·0 %; " ⅛″ 5·7 %; " 1/16″ 7·1 %; " 1/32″ 11·2 %; " 1/40″ 12·8 %; " 1/50″ 52·8 %; " 1/75″ 9·7 %; Passed 1/75″ . 4·8 %; 104·1 %	1	1	30, 32, 30 } 31	29, 35, 30 } 35	85, 95, 70 } 83	54, 28, 38	100, 58, 73 } 77	70, 0, 0	84, 118, 120 } 107	175, 106, 185	210, 165, 244 } 206
		2	1	24, 26, 26 } 25	48, 30, 30 } 36	70, 80, 90 } 80	0, 0, 0	100, 70, 65 } 78	0, 143, 0	132, 161, 132 } 142	140, 101, 0	195, 202, 194 } 194
		3	1	33, 23, — } 28	38, 30, 28 } 32	60, 70, 60 } 63	0, 0, 0	131, 132, 125 } 129	0, 0, 0	161, 160, 145 } 155	98, 0, 89	167, 192, 219 } 193
		4	1	28, 20, 30 } 26	28, 40, 35 } 34	50, 40, 55 } 48	0, 0, 0	156, 165, 141 } 154	0, 0, 0	154, 192, 129 } 158	0, 0, 160	116, 130, 175 } 138
		5	1	30, 22, 28 } 27	20, 28, 40 } 29	35, 40, 35 } 37	0, 0, 0	73, 92, 127 } 97	0, 91, 51	127, 100, 93 } 107	62, 0, 48	77, 106, 97 } 93
S 3 — Lewisham No. 2. Clay washed out. Voids, 30 per cent.	Retained on ¼″ 0·0 %; " ⅛″ 5·0 %; " 1/16″ 6·0 %; " 1/32″ 14·0 %; " 1/40″ 12·0 %; " 1/50″ 50·7 %; " 1/75″ 9·0 %; Passed 1/75″ . 4·6 %; 101·3 %	3	1	32, 30, 40 } 34	36, 40, 32 } 36	30, 60, 30 } 40	82, 0, 0	89, 85, 75 } 83	0, 0, 96	92, 72, 100 } 88	72, 0, 0	81, 57, 100 } 79
T 1, T 2, T 3, T 4, T 5 — Lewisham No. 3. Very fine, natural white sand. Voids, 40 per cent.	Retained on 1/50″ trace; " 1/75″ 1·0 %; Passed 1/75″ . 99·0 %; 100·0 %	1	1	20, 15, 20 } 18	30, 20, 18 } 23	80, 84, 80 } 82	0, 0, 0	41, 72, 82 } 65	0, 0, 0	78, 73, 85 } 79	93, 0, 99	112, 141, 124 } 126
		2	1	28, 27, 20 } 25	36, 30, 32 } 33	46, 54, 62 } 54	0, 0, 0	110, 172, 90 } 124	93, 0, 94	104, 147, 117 } 123	0, 160, 138	153, 184, 190 } 176
		3	1	22, 23, 24 } 23	28, 30, 26 } 28	50, 48, 60 } 53	0, 0, 0	70, 91, 77 } 80	53, 0, 0	63, 102, 44 } 70	83, 97, 94	100, 115, 122 } 112
		4	1	19, 22, 22 } 21	8, 30, 10 } 16	38, 50, 48 } 45	0, 0, 0	71, 87, 62 } 74	0, 0, 0	90, 60, 122 } 91	0, 103, 86	94, 112, 112 } 106
		5	1	20, 18, 20 } 19	16, 30, 20 } 24	40, 50, 36 } 42	0, 0, 0	70, 61, 82 } 71	0, 30, 0	91, 50, 104 } 82	0, 0, —	73, 90, — } 82

SERIES IV.—VARIANT, TIME.

Mortar made, and Briquettes and Blocks made therefrom at Different Periods.

Laboratory Numbers	Description: Sand	Description: Sand: Grading	Description: Sand: Volumes of Sand	Description: Lime: Volumes of Unslaked Lime	Tensile Strength (Lb. per Square Inch): Fourteen Days	Tensile Strength: One Month	Tensile Strength: Three Months	Crushing Strength (Lb. per Cube Inch): Fourteen Days: Spalled	Fourteen Days: Crushed	One Month: Spalled	One Month: Crushed	Three Months: Spalled	Three Months: Crushed
U 1	Brown Leighton Buzzard Sand used at once	As "K"	3	1	—	30, 5, 6 = 14	50, 48, 49 = 47	0, 0, 0	64, 95, 65 = 75	0, 0, 0	95, 40, 55 = 63	49, 116, 0	73, 125, 78 = 89
U 2	Ditto, one day standing (no water added)		3	1	24, 23, 23 = 23	26, 34, 30 = 30	42, 50, 44 = 45	0, 0, 0	72, 80, 69 = 74	0, 31, 0	41, 46, 75 = 54	0, 0, 0	112, 69, 109 = 97
U 3	Ditto, two days standing (damped)		3	1	24, 23, 23 = 23	20, 34, 28 = 28	40, 48, 42 = 43	0, 0, 0	84, 55, 87 = 75	0, 59, 54	68, 69, 91 = 76	65, 0, 0	87, 73, 100 = 87
U 4	Ditto, three days standing (damped)		3	1	14, 16, 18 = 16	18, 19, 20 = 19	42, 40, 38 = 40	0, 0, 0	64, 61, 72 = 66	48, 0, 0	69, 82, 67 = 73	0, 0, 0	53, 93, 58 = 68
U 8	Ditto, seven days standing (set hard, crushed up, and damped)		3	1	25, 26, 25 = 25	40, 26, 20 = 29	56, 48, 44 = 49	56, 63, 0	73, 80, 112 = 88	0, 0, 111	105, 128, 114 = 116	85, 67, 82	94, 94, 119 = 102
U 11	Ditto, eleven days standing (set hard, crushed up, and damped)		3	1	12, 16, 18 = 15	40, 20, 20 = 29	50, 50, 50 = 50	0, 0, 0	80, 86, 75 = 80	0, 0, 0	102, 74, 74 = 83	0, 75, 69	100, 100, 84 = 95

SERIES V.—RAW MATERIALS.

M	—	—	—	Lime only	22, 18, 21 = 20	36, 15*, 12* = 21	60, 65, 63 = 63	16, 30, 30	29, 44, 41 = 38	0, 0, 0	56, 40, 53 = 50	66, 89, 86	203, 119, 144 = 155
O	Lewisham Sand No. 1	As "N"	—	—	under 10, 10, under 10	10, 8 = 9	8, 8, 8 = 8	0, 0, 0	21, 20, 20 = 20	(two months) 0, 9, 0	15, 16, 16 = 16	0, 0, 0	21, 17, 16 = 18
Q	Ditto, No. 2	As "P"	—	—	5, 9, 8 = 8	12, 8, 11 = 10	10, 5, — = 7	0, 0, 0	15, 10, 9 = 14	0, 0, 0	20, 21, 15 = 19	0, 0, 0	20, 6, 12 = 13

* Cracked in setting.

AVERAGE RESULTS.

SERIES I.—VARIANT, FINENESS OF SAND.

Composition of Mortar	Tensile Strength (Lb. per Square Inch)			Crushing Strength (Lb. per Cube Inch)		
	14 days	1 month	3 months	14 days	1 month	3 months
LEIGHTON BUZZARD STANDARD SAND, UNWASHED.						
A. 1 volume sand to 1 volume unslaked lime	26	—	28	99	—	150
B. 2 " " 1 " "	31	—	32	97	—	92
C. 3 " " 1 " "	—	—	22	—	—	52
D. 4 " " 1 " "	—	—	15	—	—	53
LEIGHTON BUZZARD SAND, WASHED—Passed $\frac{1}{8}$-inch and retained on $\frac{1}{16}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	—	—	—	87	146	152
2 " " 1 " " "	24	35	—	99	74	164
3 " " 1 " " "	—	—	—	59	56	86
4 " " 1 " " "	22	—	—	46	33	64
5 " " 1 " " "	—	—	—	33	34	41
LEIGHTON BUZZARD SAND, WASHED—Passed $\frac{1}{16}$-inch and retained on $\frac{1}{32}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	24	39	47	101	127	126
2 " " 1 " " "	20	20	27	63	72	104
3 " " 1 " " "	27	18	23	55	38	63
4 " " 1 " " "	12	19	18	36	35	35
5 " " 1 " " "	9	11	9	28	19	27
LEIGHTON BUZZARD SAND, WASHED—Passed $\frac{1}{32}$-inch and retained on $\frac{1}{40}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	30	32	43	102	126	104
2 " " 1 " " "	23	23	—	64	67	101
3 " " 1 " " "	13	16	—	55	64	76
4 " " 1 " " "	13	11	—	29	41	33
5 " " 1 " " "	8	10	—	31	30	40
LEIGHTON BUZZARD SAND, WASHED—Passed $\frac{1}{40}$-inch and retained on $\frac{1}{50}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	17	25	35	57	78	110
2 " " 1 " " "	28	28	43	69	47	75
3 " " 1 " " "	10	23	27	48	47	60
4 " " 1 " " "	6	15	—	31	26	47
5 " " 1 " " "	7	10	—	39	30	40
LEIGHTON BUZZARD SAND, WASHED—Passed $\frac{1}{50}$-inch and retained on $\frac{1}{75}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	—	—	—	43	68	58
2 " " 1 " " "	22	29	—	72	75	66
3 " " 1 " " "	—	—	—	48	61	66
4 " " 1 " " "	15	14	—	25	33	—
5 " " 1 " " "	—	—	—	29	33	—
LEIGHTON BUZZARD SAND. WASHED—Passed $\frac{1}{75}$-inch mesh.						
1 volume sand to 1 volume unslaked lime	—	—	—	60	67	—
2 " " 1 " " "	—	—	—	82	67	—
3 " " 1 " " "	—	—	—	25	27	—
4 " " 1 " " "	—	—	—	26	18	—
5 " " 1 " " "	—	—	—	65	37	—

SERIES II.—VARIANT, CLAY.

Composition of Mortar	Tensile Strength (Lb. per Square Inch)			Crushing Strength (Lb. per Cube Inch)		
	14 days	1 month	3 months	14 days	1 month	3 months
BROWN LEIGHTON BUZZARD SAND.						
1 volume sand to 1 volume unslaked lime	30	32	47	116	123	115
2 ,, ,, 1 ,, ,, ,,	22	25	30	77	80	85
3 ,, ,, 1 ,, ,, ,,	24	32	31	82	69	78
4 ,, ,, 1 ,, ,, ,,	26	21	33	58	61	60
5 ,, ,, 1 ,, ,, ,,	15	16	20	50	42	33
BROWN LEIGHTON BUZZARD SAND—Plus $2\frac{1}{2}$ per cent. clay.						
1 volume sand to 1 volume unslaked lime	42	44	88	90	114	140
2 ,, ,, 1 ,, ,, ,,	20	26	34	98	111	76
3 ,, ,, 1 ,, ,, ,,	32	29	49	80	108	114
4 ,, ,, 1 ,, ,, ,,	30	25	46	72	93	90
5 ,, ,, 1 ,, ,, ,,	30	37	57	66	74	67
LEIGHTON BUZZARD SAND—Plus 5 per cent. clay. Voids 36 per cent.						
1 volume sand to 1 volume unslaked lime	32	48	107	122	158	233
2 ,, ,, 1 ,, ,, ,,	34	41	85	181	192	217
3 ,, ,, 1 ,, ,, ,,	31	33	65	111	134	139
4 ,, ,, 1 ,, ,, ,,	42	47	84	88	133	153
5 ,, ,, 1 ,, ,, ,,	35	60	74	102	128	108
LEIGHTON BUZZARD SAND—Plus $7\frac{1}{2}$ per cent. clay.						
1 volume sand to 1 volume unslaked lime	23	39	65	145	186	192
2 ,, ,, 1 ,, ,, ,,	32	45	90	93	126	180
3 ,, ,, 1 ,, ,, ,,	42	55	111	128	174	272
4 ,, ,, 1 ,, ,, ,,	26	29	72	86	125	122
5 ,, ,, 1 ,, ,, ,,	38	50	62	118	183	207
LEIGHTON BUZZARD SAND—Plus 10 per cent. clay. Voids $32\frac{1}{2}$ per cent.						
2 volumes sand to 1 volume unslaked lime	36	43	85	157	223	261
3 ,, ,, 1 ,, ,, ,,	31	52	90	163	202	228
4 ,, ,, 1 ,, ,, ,,	45	44	91	125	181	233
5 ,, ,, 1 ,, ,, ,,	43	65	88	118	176	234

SERIES III.—LEWISHAM SANDS. VARIANT, CLAY.

LEWISHAM SAND, No. 1—Voids 23 per cent.						
1 volume sand to 1 volume unslaked lime	24	23	73	67	94	158
2 ,, ,, 1 ,, ,, ,,	30	36	90	137	179	+233
3 ,, ,, 1 ,, ,, ,,	32	41	65	86	154	125
4 ,, ,, 1 ,, ,, ,,	38	43	55	104	157	175
5 ,, ,, 1 ,, ,, ,,	38	50	58	99	127	131
LEWISHAM SAND, No. 1 (WITH CLAY REMOVED). Voids 34 per cent.						
2 volumes sand to 1 volume unslaked lime	30	30	43	106	91	111
3 ,, ,, 1 ,, ,, ,,	30	33	59	65	61	87
1 ,, ,, ,,	18	24	38	35	46	46

SERIES III.—LEWISHAM SANDS. VARIANT, CLAY—*continued.*

Composition of Mortar	Tensile Strength (Lb. per Square Inch)			Crushing Strength (Lb. per Cube Inch)		
	14 days	1 month	3 months	14 days	1 month	3 months
LEWISHAM SAND, No. 2. VERY RED. Voids 28·6 per cent.						
1 volume sand to 1 volume unslaked lime	31	35	83	77	107	206
2 " " 1 " " "	25	36	80	78	142	194
3 " " 1 " " "	28	32	63	129	155	193
4 " " 1 " " "	26	34	48	154	158	138
5 " " 1 " " "	27	29	37	97	107	93
LEWISHAM SAND, No. 2 (WITH CLAY REMOVED). Voids 30 per cent.						
3 volumes sand to 1 volume unslaked lime	34	36	40	83	88	79
LEWISHAM SAND, No. 3. FINE WHITE SAND. Voids 40 per cent.						
1 volume sand to 1 volume unslaked lime	18	23	82	65	79	126
2 " " 1 " " "	25	33	54	124	123	176
3 " " 1 " " "	23	28	53	80	70	112
4 " " 1 " " "	21	16	45	74	91	106
5 " " 1 " " "	19	24	42	71	82	82

SERIES IV.—VARIANT, TIME.

3 VOLUMES LEIGHTON BUZZARD SAND AND 1 VOLUME OF UNSLAKED LIME AND RRIQUETTES AND BLOCKS made up after standing:—

0 day	14	—	47	75	63	89
1 " (no water added)	23	30	45	74	54	97
2 " (damped)	23	28	43	75	76	87
3 "	16	19	40	66	73	68
7 " (mortar set hard, crushed up and damped)	25	29	49	88	116	102
11 " " " " "	15	29	50	80	83	95

SERIES V.—RAW MATERIALS.

Lime only	20	21	63	38	50	155
Sand only (Lewisham No. 1)	under 10	9	8	20	2 months 16	18
" (Lewisham No. 2)	8	10	7	14	19	13

* * *

The tabulated results of a series of experiments carried out by Messrs. W. Cubitt & Co., to test the strength of Portland Cement Mortars, will appear in the next issue of the JOURNAL, *together with a communication on the subject from Mr. Wm. Dunn [F.]*—ED.

DISCUSSION OF MR. DIBDIN'S PAPER.

The President, Mr. Thomas E. Collcutt, in the Chair.

Mr. H. D. SEARLES-WOOD [*F.*], Hon. Sec. Science Committee and Mortar Sub-Committee, in proposing a vote of thanks to Mr. Dibdin, said that, so far as he had been able to ascertain, there were no published results of experiments upon lime, clay, and sand, although experiments upon cement, clay, and sand had been published. According to the results of the American experiments of the addition of clay to sand, in the case of a one to one mortar, or of neat cements, no improvement had been made to the mortar; but in the mortars of a leaner condition, one to three or one to four, there had been an improvement. But the general result of these experiments seemed to be that it was impossible to say whether clay was or was not beneficial to cement mortar. There was one thing he should like to correct in the Paper. Mr. Dibdin had taken one to three as an absolutely arbitrary proportion. He thought it was the minimum proportion in the By-law—that they would not prosecute for an excess of lime. Turning to Mr. Dibdin's tables, Series 2, Mr. Searles-Wood said that in all diagrams of this sort it was generally allowed that, unless the line given by plotting the result in this way had a fairly regular curve, there must be something exceptional in the results of the experiments. Looking at Series 2, it would be seen that the three to one mixture gave a fairly regular line. But looking at the other series—the two to one or four to one series—it would be seen when they came to 7½ per cent. of added clay that, instead of going in a regular curve, there was a serious drop at that point, and then there was a rise to 10 per cent. He could not help thinking that in that series of experiments there must have been some accidental conditions which had interfered with the results; it was not in the course of nature to have a sudden drop and recovery in that way. He should like to have that result checked in another series. With regard to the question of the admixture of clay with sand, he was glad Mr. Dibdin had laid such special insistence upon the fact that it was pure clay he added, because there was another class of experimenters—the jerry-builders—who had been mixing their mortars with more or less dirty sand for a great many years, and carrying out their experiments in bulk; and they would all agree that the results of those experiments had been disastrous. So that before he could give his adherence to Mr. Dibdin's experiments he should like to see this series of experiments carried a great deal further. Mr. Dibdin had explained to him privately that he did not consider that the addition of clay made any chemical difference to the mortar; that is to say, that no silicate aluminas were formed by the addition of clay; or if there were any, that they were so infinitesimal that they would not come into account, so that really the only value of the added clay would be to increase the density of that particular mortar and in that way add to its strength. The whole of the results pointed to the value of having varying sizes in the grains of sand, and to the very fine grains being taken out by washing. This was quite in accordance with accepted practice. The ideal mortar consisted of angular grains of silica, each grain entirely enveloped in lime, and the grains thus enveloped being of such varying sizes that they knit into one another and adhered by the crystallisation of the lime between their surfaces, thus forming one homogeneous mass. The rounder the grains of sand and the more uniform their size the smaller were the contact surfaces presented for the lime to crystallise between, until, when the grains approached perfect spheres all one uniform size, the grains only touched at points, and the voids between the grains became either filled with air or uncrystallised lime. Mr. Dibdin's description of measuring the voids in sand was very clear and interesting. It was an extremely difficult thing to gauge accurately what the voids in sand were; but from Mr. Dibdin's description he thought they should all be able to carry out their own experiments on that subject. As regards Mr. Dibdin's suggestion that the By-laws should be drawn with regard to the compressive strength of mortar rather than of proportions, the drawback to that was that it would necessitate a separate experiment every time one questioned the strength of the mortar on a job, and that would mean a delay of at least eight days. Another thing, the specification was naturally a direction to the contractor: the contractor would hand the specification to the foreman, and the foreman would give his instructions from the specification to the particular labourer who had to mix that batch of mortar, and he would not have the slightest idea what was meant if he were told it must have a comprehensive strength of so many pounds to the square inch. It seemed to him that, as the question before them was one which interested them all, it should be an obligation on the part of authorities, such as the London County Council or the borough councils, to instruct chemists like Mr. Dibdin to conduct a series of experiments on the local materials in their particular districts, so that the results should be available to those who came there to carry out building operations. An office should be established in the nature of a bureau of information, and when they wanted to build they should be able to go to this office and ask, for

instance, what was the nature of the local sands. Then they would be given Mr. Dibdin's analyses of the amount of clay in them, and they could get the proportion of lime wanted for it at once. That seemed to him a practical idea which no properly constituted ratepayer could object to the expense of carrying out. In conclusion the speaker said that Mr. William Dunn, who took a great interest in this matter, had handed to him a communication with some very valuable tabulated results. He would not read them to the Meeting, but he hoped they would appear in the JOURNAL in connection with Mr. Dibdin's Paper.*

MR. WILLIAM WOODWARD [*F.*], in seconding the vote of thanks, said that Mr. Searles Wood had certainly pointed out additional food for thought; and if he (the speaker) suggested other methods of test with regard to mortar than those enumerated by Mr. Dibdin, he hoped he would clearly understand that his object was not in the slightest degree to diminish the value of what he had told them that evening or of the careful experiments he had made. Again, any proposition which would destroy the cast-iron effect of an Act of Parliament would meet with the recommendation of himself above all others! Therefore, when Mr. Dibdin told them that in place of the hard-and-fast three to one of the by-law of the London County Council, they might speak of five to one; when he told them, as he (Mr. Woodward) had found from his own experience, that the addition of clinkers added to the strength of mortar; and when he told them—and here, again, he thoroughly agreed—that it was not so much the mixture of the mortar that was important as its ability to resist compression: those were matters he thought which would commend themselves to every practical man in the room. The point he wished to bring out with regard to this experiment was this. He sincerely wished that Mr. Dibdin, with his vast experience as a chemist and his great knowledge of the composition of mortar, would substitute real walls for briquettes, which he thought were not sufficiently practical for architects to place implicit reliance upon; they could then find out what the effect on the strength of mortar was with washed sand, and what its effect was with unwashed sand; also to find out the strength of mortar mixed in a pug mill, the strength of mortar mixed with slaked lime, and the strength of mortar mixed with unslaked lime; the effect on the strength of mortar in various thicknesses of joints; any instance of failure in a brick wall through weakness of mortar; the effect of mortar upon various thicknesses of wall; the effect of mortar upon bricks with a "kick" in them, and the effect of mortar upon wire-cut bricks; the effect of frost upon various mortars, and the exact effect of mortar used with sand and clay. If they could get experiments of that sort upon walls in place of briquettes, and if they could take notes of the effects of mortars, and of the various ways of mixing mortars, as they found them in their experiences, the results of those experiments would be of more value to them than the results of experiments when tested upon briquettes. He knew the difficulty of doing this; but he believed that every member of the Institute could contribute most valuable information if he would take the trouble in his architectural experience to take notes in the various directions he had suggested.

MR. MAX CLARKE [*F.*], Vice-Chairman of the Science Committee and a member of the Sub-Committee on Mortar, said that Mr. Dibdin's Paper seemed to be just what was wanted at the present time. They had been, he supposed from their grandfathers' and great-grandfathers' time, saying that two to one, or three to one, as the proportion of lime and sand, was the right and proper proportion, not knowing exactly why it was so, but simply following that which their ancestors did as being right and proper. He could not help being greatly struck with Mr. Dibdin's results, because just about ten years ago the gentleman who then occupied the Presidential Chair ridiculed the idea of mortar being made up in the proportion of two of sand to one of lime in building the piers which were tested at the West India Docks. Mr. Dibdin's experiments seemed to confirm the proportion of materials adopted on that occasion. He should like to add his quota of thanks to Mr. Dibdin, because this was a matter in which he had taken more or less interest for some considerable time. It appeared to him that the average architect having written the specification remained satisfied without exercising that supervision which was essential for good work. It was one of the essentials, at any rate, that mortar should not be made so hard and stiff as that which the bricklayer was so fond of using. It was also an essential, more particularly with cement work, that the bricks should be properly wet. This consideration, however, was somewhat outside the question. He took it that these experiments were more or less the outcome of a case in the police courts some time ago; and although he was perfectly well aware that Mr. Dibdin had been dipping into the subject very considerably before that case, he knew he had dipped into it now with such effect that the By-laws, in London at any rate, would have to be revised. He was sorry to contradict Mr. Searles-Wood, but it was equally against the law to make mortar in the proportion of two to one, as it was in the proportion of four to one—that had been proved in the courts, and there was now no question at issue upon that point. Another thing which struck him about the tests under consideration, and which consoled him somewhat, was that

* Mr. Dunn's communication and the tabulated results referred to will appear in the next issue of the JOURNAL.

they were carried out by one of the most expert chemists of the day—in this land at any rate—and the results showed such remarkable variations that one was naturally led to think that the average material in actual use was very varied, which, of course, was one of the difficulties they had to contend with on the work, as well as in the laboratory. But if there was that variation in laboratory tests carried out with the greatest possible care, what must one expect in a building where no care was exercised at all? For what really did occur? A man absolutely ignorant was set to make mortar. He did the work according to his lights, and the result, of course, was what one might anticipate. He should like to ask what Mr. Dibdin meant by the time of setting. Experts in cement had a recognised method of dealing with what they called "setting"; but it would be interesting to get some definite information from Mr. Dibdin as to what he meant by "setting." Mr. Searles-Wood had said that to ensure the best results one must get a variable size of sand. That, however, was all very well in the laboratory again, where those things could be screened or sifted, and such and such a proportion of one size and such and such a proportion of another size added. By that means one could avoid interstices altogether. But that was an absolute impossibility in the work. Supposing they had, as he had had that very day on one of his buildings, three different consignments of sand. One was extremely coarse, one was a sort of intermediate, and one was extremely fine; and he thought to himself, How nice it would be if he mixed the three samples together, and thus got the use of them all! But he firmly believed that if he had done so, the coarse stuff would allocate one place to itself, and the fine stuff would allocate another place to itself, more particularly if it was done in a mortar mill. That, perhaps, was one of those things one would like to think could be used, but which, he was afraid, upon the work was almost impossible. He would tell them more or less why he considered it impossible. The building he referred to was of a considerable size, and had fire-resisting floors. He had considered the matter of fire-resisting floors very carefully for some time, and had described in his specification that there was to be a certain proportion of broken bricks—broken to a particular size, a certain proportion of coke-breeze, and a certain proportion of sand. He had arrived at the building at about half-past one that day, and found that the man making the concrete had taken upon himself to make it entirely of coke-breeze, because he thought the bricks would be a disadvantage, the coke-breeze being rather large. Now that entailed taking out as much concrete as would cover the area of their present meeting-room, and it would probably entail a loss of £250, which was the bonus to these particular contractors. If such a thing occurred in a perfectly simple matter, what must one expect in a matter which was more complicated, like dealing with mortar? He thought that, at any rate for the London district, Mr. Dibdin's idea about the way mortar should be tested was a most excellent one, because it was possible in London to know exactly the sort of lime and exactly the sort of sand one was going to use; and, knowing these two, one should know beforehand exactly what the result would be. Therefore the testing would be quite a simple matter. But to go on in the haphazard sort of way that the County Councils and the Urban District Councils would like them to do was quite ridiculous. Many members present were doubtless aware that the Institute had a "Mortar" Committee, of which Mr. Searles-Wood was the indefatigable Secretary. He was sorry the Meeting was so small, but he should like to propose the following resolution: "That this Meeting is of opinion that the question of the composition of mortar is a matter which deserves the fullest consideration, and, with that end in view, the Council be asked to devote a sum of money for further inquiry into the subject." The Meeting that evening had proved to them most completely that it was folly for an architect to try to do this work by himself. He could go a certain way, and could give the result of his experience on the work; but he could not give that absolutely scientific knowledge which was the basis of all things. If they had not got that, they had not even the beginning of the thing, and would never arrive at a definite conclusion; and the Mortar Committee was just in that unhappy state: they had found out a certain amount, and now, without money, they did not know how to find out any more. If the President would put the resolution to the Meeting, and if the Meeting would kindly consider it, the Mortar Committee would be greatly indebted—first to Mr. Dibdin, and then to the Meeting, and thirdly, he hoped, to the Institute.

Mr. ALAN E. MUNBY, M.A.Cantab., F.C.S., Lecturer on the Chemistry of Building Materials to the London County Council, said that the chief difficulty in drawing conclusions from Mr. Dibdin's interesting experiments appeared to lie in the very large number of variable factors which were involved. The initial hardening of mortar depended probably, for the most part, upon: (1) the extent of compression in the mass, such as might be caused by changes of volume produced on solidification; (2) the amount of evaporation which would result in a contraction varying with the nature of the constituents; (3) the solidification attained; (4) the character of the crystallisation, decided by the nature of the crystalline constituents, the quantity of water present, the solubility of the ingredients, their initial temperature, and the thermal disturbance caused by chemical

reactions; (5) on the time of setting, which put a limit to the motion of the ions in solution. Again, the final strength attained must be governed by the cohesion of the particles, which would, of course, vary with their composition; and by the area of surfaces of different constituents in contact, their chemical nature, crystalline grouping, and interspaces—in short, by what was called adherence. Was it rational to expect that among such a wealth of variables any scientific results could be drawn directly from experiments which attempted to embrace so many simultaneously? In the first place, we did not even know whether any chemical action took place between the lime and the clay added to the sand. It might seem improbable that clay, the last resisting remnant of disintegrated felspathic rocks, which had, in a minute state of division, been suspended for so long in water (alkaline at least initially), should be soluble enough to react with lime during the short interval before the tests. Nevertheless, some recent experiments on American mortars * showed that silica was much more soluble than was generally supposed. One would like to see some experiments undertaken on less ambitious lines to begin with. For example, the clay might be replaced by something entirely above chemical suspicion, such as platinum, in a similar state of division. Again, a further effort might be made to separate chemical and physical effects by initiating experiments on adherence with fat lime mixtures. Briquettes of lime and shot in place of sand might lead to some information as to the effect of configuration and size of particles which would then be under control. Something in the nature of a fat-lime constant for subsequent deduction might possibly result. As to the setting of mortar when re-worked, the supersaturation theory of Le Chatelier and Marignac might provide an explanation. These *savants* have shown that many bodies added in excess to water form supersaturated solutions which deposit crystals after a small interval. As much lime remained unaltered in ordinary mortar, there seemed no reason why, when ground, supersaturation should not again occur on remixing. The subsequent loss of strength after a longer interval might be due to the formation of compounds which would be less soluble than lime, and would consequently produce less concentration in their supersaturated solutions if the rate of setting was not proportionately increased.

Mr. W. D. CARÖE, M.A.Cantab., F.S.A. [*F.*], said that after the very able and scientific remarks they had just heard from Mr. Munby he was afraid his contribution would be of a very banal description. He did not know quite what the orders of the evening were, or whether Mr. Max Clarke's proposed resolution was in order, and whether it could be seconded; but this was a subject in which he took an immense interest, and he must say that he felt that there was such a vast amount of knowledge they had yet to acquire on this subject, and that the Institute was of all others the institution which ought to acquire it and lay it before them, that he should like, if it was in order, to second Mr. Max Clarke's proposition that the Institute should take this exceedingly important matter up. For instance, Mr. Dibdin had told them in his very able and interesting Paper all about mortar within a few days, or at any rate within a few months, of its putting together. He should like to know something about that mortar when it had been mixed for five, ten, fifty, or one hundred years. After all, that was what concerned them: it was not what mortar was a few months after it was made—it was what it was going to be when their buildings were handed down to posterity. He happened for a considerable part of his small practice to have to deal with ancient buildings, where he was constantly coming across all sorts of questions in connection with mortar; and he was bound to say that the conclusions he had arrived at generally might be summed up very shortly: that nearly all the mortar made in the nineteenth century was not to be compared for excellence with the mortar that was made a good many centuries before. He could tell them of many cases where the ancient mortar that was made in the thirteenth and fourteenth centuries, and more especially the mortar that was made in the time of Sir Christopher Wren, was infinitely superior in every way to the mortar that had been used in adding to the buildings during the last century. Why was that so? Presumably there was more science in the last century; perhaps there was more jerry-building; but he fancied the real reason was that the men who made that earlier mortar were definitely trained craftsmen with a tradition, and they had learned locally, where they happened to build, how the sands and limes in that particular district were best put together, with the result that he had tried to describe. He should very much like some experiments to be carried out if it were possible—Mr. Dibdin would tell him if he was wrong—upon the composition of the ancient mortars, to find out how it was that they seemed to have been used—which was an exceedingly important point—without shrinkage. He had more than once made very careful surveys of St. Paul's Cathedral, and the one thing that struck him more than anything else was the fact that Sir Christopher Wren had managed to secure, even for the repair work he had to do, mortars which did not shrink, and which adhered to both sides of a crack. One's experience now of modern mortars, and certainly of modern cements, was that that was a very difficult, and almost impossible, thing to secure. And he had been

* Headden, *American Journal of Science.*

immensely struck by that remark of Mr. Dibdin's in which he adumbrated that one of the objections that there might be to the use of clay in connection with sand was the shrinkage which took place in the mortar. That he could certainly, from practical experience, confirm, because he had tried experiments, of no scientific value at all, but simply practical experiments upon that point. Therefore, in joining in this vote of thanks to Mr. Dibdin, he should like to support the resolution Mr. Max Clarke had put before them, that the Institute should go more deeply into this highly interesting and technical matter, which concerned them all so much.

Mr. Max Clarke's resolution was then put to the Meeting and carried.

The PRESIDENT, before putting the vote of thanks, referred to Mr. Caröe's remark that tradition had possibly directed the makers of mortar in the thirteenth and fourteenth centuries and up to the time of Sir Christopher Wren. He himself thoroughly believed that tradition had had a very great deal to do with the superior methods of those days. He had lately been in Spain, and had had occasion during the last few years to see mortar mixed and to have a good deal of mortar used in buildings pass under his inspection. He thought the Spaniards knew a good deal more about the mixing of mortar, especially that used for plastering, than the English did; and he thought that was possibly due to the tradition that had been handed down from the time of the Romans, through the Moors, and again on to the Spaniards. In Spain it was the usual custom to run the stone lime twice through the tubs, and then to mix it with the sand—the sand was not washed in any way, so far as he knew; it was then allowed to remain for at least a fortnight before it was used as a mortar for the building of walls. That was rather contrary to our custom. He should like also, though perhaps it was a little bit outside the scope of the Paper that evening, to say a word about the question of using mortar, or lime, or cement in the way of concrete blocks. He believed that so far as the use of concrete blocks as masonry was concerned it was absolutely a modern way of using it; but on the outskirts of Algeciras, within half a mile of the town, there was a very beautiful aqueduct, built, he believed, by the Moors perhaps some 700 or 800 years ago, though some authorities declared it to have been built by the Spaniards only some 300 or 400 years ago; at any rate there it stood, the most picturesque aqueduct perhaps in the world. An interesting feature about this aqueduct was that the piers were about three feet seven inches square, and on a cursory examination they all appeared to be built of blocks of conglomerate stone. He made some incisions into this, and found that these blocks of what appeared to be conglomerate stone were actually lime concrete mixed with a local pebble and stones, broken-up stones, with in a few instances bits of mortar in it. Now that lime concrete, built in blocks and built as masonry, had stood, and it was very interesting to consider how well it had stood the weather all these centuries and had answered its purpose. They had listened to Mr. Dibdin with very much pleasure, and he was sure with very great profit, and he put the vote of thanks with all confidence that it would be carried unanimously. [The vote was carried by acclamation.]

Mr. DIBDIN, in expressing his acknowledgments, said that the work he had been engaged in had been entirely a labour of love. It was not a new question to him by any means. In his old official capacity he had had to do with mortars and cements in many ways, and in his private capacity he had had great pleasure in following it up; his only regret was that he had not been able to do twenty times as much work. The number of ramifications which showed themselves in every direction as one touched such a comparatively simple question as mortar were surprising. One had only to take a little lime and a little sand and mix them together, and there was mortar. That was true. But when one took different limes and different sands, and when it was remembered that limes varied from almost pure lime (99·9 per cent.) down to limes of 60 per cent. or less, each having its own specific qualities for certain specific work—so that one would do for one thing and would not do for another—one arrived at such a complication that it was almost bewildering to think of the amount of work that would be required to elucidate all the points. The difference between using a grey-stone lime, with a fair percentage of soluble silica, as compared with using fat lime, or blue lias lime, was so very great that it was impossible to put the work forward in the compass of one such paper as this; many papers and many evenings would be required before the problem was solved. He had, in fact, gone into the question as to how many tests would be necessary before one might hope to break the back of the work, and he saw 20,000 in front of him at once; so he decided to manage to do what work he could and attempt the rest in time. Mr. Searles-Wood had picked out one point more particularly, viz. the variable results as given in the diagrams and tables. Mr. Searles-Wood probably had not quite followed his meaning, viz. that the results were necessarily variable. In dealing with laboratory conditions and small quantities of mortar one must of necessity obtain variable results. That was why he was glad that the Institute had printed his results *in extenso*, because they showed the fallacies wherever they existed. They showed the errors that might arise and with what reservations they might accept the results. Averages were an excellent thing in their way,

but in certain cases one had to consider minima. Even with regard to the point mentioned by Mr. Searles-Wood of the 7½ per cent. of clay, the diagram, Series II, showed a considerable drop in one of the factors from 5 per cent., while some of the others went up. That was the case. The curves crossed, and there was obviously, one would say, some error in the experiments. He quite admitted it—they must have it. If they could show him how to make a series of three briquettes with such a thing as mortar, and get absolutely identical results every time, he should only be too delighted to sit at their feet. But his point was this: with the Leighton Buzzard sands as received they got results varying, roughly speaking, about 75 lbs. But the worst result with a 7½ per cent. clay was about 125 lbs., the minima in one case being above the maxima in the other. That showed that there must be something in this difference. Putting the laboratory results on one side, including accidents and all variable conditions, they arrived at that broad differential that they would get double (to say nothing of three and four times) the strength. And when it appeared (as in that series of 7½ per cent.) as if there were some accidental elements in it, it was quite possible that there was. He was prepared to believe that this diagram could not be repeated every time. But when they took 10 per cent. of clay they had overcome that; they had a minimum of 175 lbs. instead of 75 lbs.; that had given them a gain of 100 lbs. Variable results did not affect the main facts. The fact remained that there was gradual increment up to that point, and that was a matter, he respectfully submitted, that was worth consideration. As to delay in work by having such a test as he proposed made, he quite admitted that the builder wanted to get on with his work, and could not wait three weeks or a month while somebody was playing about with briquettes. That was not his point. The point was that if they had it fairly established by sufficient experiments that materials which had hitherto been looked upon with suspicion might be passed, any architect or surveyor would say "that is a good material according to my experience, and it may be used," instead of saying, "No, that is a material you must take away—you shall not use it." In certain cases materials would be rejected which would give better results than others which would be accepted, and he suggested that experiments on a working scale should be made to finally establish the facts. As to Mr. Searles-Wood's suggestion that an examination should be made in regard to local material, nothing could be more important or more valuable. It seemed an extraordinary thing that in these days of scientific investigation and exact knowledge, there should be so many loose ideas with regard to the character and effect of using local materials. Why need they go miles and miles away to get something brought to them, when they had a suitable, or more suitable, material under their feet? The suggestion adopted by the seconder of the motion as to the investigation of brick walls, he had already dealt with. He had thrown out the suggestion, and he sincerely hoped it would be followed up; because nothing could be more interesting, at least to him, than the experiments the Institute had already conducted on the strength of brick walls. He felt at the time that one factor was wanting, and that although a good deal of work was done upon the composition of the mortar and cement used, yet a good deal more useful work might have been done in connection with the character of mortar. Mr. Max Clarke had spoken of the variations, and rather inferred that there might be objections to hard and fast lines, because one might have variable results with good materials. Exactly so; but one might have variable results with bad materials. As to the time of setting, his experiments were laboratory experiments, and of course one found a different time of setting with a small quantity on the laboratory table from what would be the case with larger quantities made up in a builder's yard. Probably his data in that matter should be extended to weeks or months. As he had described in the test, the mortar set hard, so that it had to be thoroughly crushed up again in order to get it into the mould; and in the bulk they would not expect it to set so hard as that in the same time. Mr. Munby's remarks were of extreme interest, and showed an acquaintance with the subject which he hoped to have a better opportunity of discussing with him. The enormous number of variable conditions, as he had already pointed out, were overwhelming; one wanted a staff of assistants, and little else to do but to carry on these investigations. One must work according to one's means. He had done his best to start the thing so far—at least he knew of no previous work on the same lines; and he hoped that others would assist in elucidating other points which remain unsolved at present. The silica reaction referred to by Mr. Munby was one of those difficult points which required a great deal of investigation; but he felt that it was altogether too technical a thing, from a chemist's point of view, to impose upon that meeting; because even chemists were not agreed upon the point. It was a fact that chemists were not always agreed amongst themselves; and this question of the reaction of silica upon lime in mortar was one that required a great deal of work yet. It was intensely interesting; it brought about all sorts of questions with regard to crystallisation and the behaviour of those crystals one to the other, and the question of saturation and super-saturation and re-saturation and the gradual deposition of crystals one upon the other. For instance, take a super-saturated

solution; crystals were deposited, and the question arose whether, when deposited under variable temperatures, that water could take up a further quantity and cause a fresh deposit. That was a question they were not in a position to discuss that evening. At the same time he entirely admitted the importance of the question, and he admitted that it was one which required a great deal of work; but at present he was afraid their information was hardly sufficient to allow them to do more than refer to it. As to experiments with fat lime he had already referred to that. They wanted to work through the whole grading of lime, and to observe it with regard to the sands. There was another point that he might mention with regard to some experiments he had made with cement some time ago with Mr. Grant. They took some sand and found a certain result with cement. The sand was of a peculiar nature. He heated the sand and altered its physical character and used it for making cement briquettes, and they obtained double the strength. There was a slight chemical difference, not much, but a material difference in the physical character, and it resulted in something like double the strength. With regard to Mr. Caröe's question as to old mortar, this had interested him for a long time past; but he had been in this difficulty. He had tried to get a number of samples of old mortar which could be verified as old mortar, and the approximate date given; but the difficulty of getting those certificates and statements from an authoritative and skilled person upon whom they could rely seemed to be something enormous. He should personally be very glad if any members of the Institute would kindly send him samples of authenticated old mortar, and he would do his best to make as complete an examination as possible, and summarise the results. It would be of the greatest possible interest to him, and might throw much light upon the whole question. But one might examine a thousand mortars and then find that hardly one of them was authentic. It might be some mortar that was introduced at a later date, and doubts of all kinds might arise. But wherever a sample of mortar could be fairly and properly certified as being of a certain date, he would examine it with the greatest possible pleasure, and he should be grateful for the opportunity. The silica in those old mortars presented a feature of great interest. It was a very difficult subject, because they had silica in new mortar; but it would be an interesting thing to see how far in an average number of samples (they would want a large average for it) the solubility of silica had increased with age He was a little sceptical upon the point as to whether that increment in solubility of silica was such a very large quantity after all. But that was one of the points that still required investigation.

9, Conduit Street, London, W., 22*nd Dec.* 1906.

CHRONICLE.

Presentation of Sir Aston Webb's Portrait.

At the General Meeting last Monday, prior to the reading of Mr. Dibdin's Paper, Sir Wm. Emerson [*F.*] rose at the invitation of the President to make the formal presentation to the Institute of the portrait of Sir Aston Webb, R.A. [*President* 1902-04]. The portrait, a masterly work, and a strikingly successful presentment of its subject, was painted by Mr. Solomon J. Solomon, R.A. [*H.A.*], and hung in this year's exhibition at the Royal Academy. The commission was undertaken by Mr. Solomon for members subscribing to the Portrait Fund, and Sir Wm. Emerson acted as their spokesman in making the presentation to the Institute. The following is a note of the remarks on the occasion:—

Sir William Emerson said it was his pleasurable duty on behalf of the subscribers to ask the Institute's acceptance of the portrait of their Past President, Sir Aston Webb. He much appreciated the task that had been imposed upon him, for it gave him the greatest pleasure to say a few words concerning his friend, the subject of the portrait. Sir Aston's activities were known to all of them, and nothing he (Sir William) could say would be new. Their Past President commenced many years ago by taking an interest in the Architectural Association, and his various activities in connection with that body ended by his being made its President. He then became a member of the Council of the Institute, was afterwards Honorary Secretary, and finally occupied the Presidential chair. During nearly the whole period of Sir Aston's connection with the Institute Council, he (Sir William) had had the pleasure of working with him. He could testify to the marked ability Sir Aston brought to bear on every question that came before the Council, to his unvarying courtesy, his thoughtful consideration of every detail, his unfailing tact, and his rare judgment and sagacity in all questions the Council had had to consider. They all knew what a successful term Sir Aston's Presidency had been. But his activities had not been with the architectural bodies alone. He had

been elected A.R.A., and shortly after, with a very much briefer interval than was usually the case, he was elected to the full rank of R.A. At the Academy, he believed, his activities were as great, if indeed they did not exceed, those he had displayed in the concerns of the Institute. As regards Sir Aston's architectural works, it seemed almost superfluous to speak of them, but he should like to refer to two or three of his buildings. The large hall, for instance, of the Law Courts at Birmingham, which was magnificent in its proportions, and beautiful in its detail, he thought was as successful a modern work as any that could be pointed to. The charming Life Assurance Office in Moorgate Street, with its studied and picturesque beauty of detail, was worthy the admiration of all. Then, again, the Victoria and Albert Museum, now gradually becoming disclosed as the scaffolding was removed, with its charming arcading, and the central feature, which bade fair to be a unique landmark in London. He would also mention the Royal College of Science, the new Christ's Hospital Schools, the Birmingham University, and finally the Queen Victoria Memorial, in connection with which Sir Aston was responsible for the laying-out of the fine processional road, and for the surroundings to Mr. Brock's beautiful design for the monument itself. All of these were works of a monumental character, and worthy of their greatest admiration. Sir Aston Webb's career had been a lesson to all of them, especially as regards his capacity for hard work and his unflagging perseverance and industry. The graceful courtesy with which he always met them at their various functions, business and social, his constant kindliness to the junior members of the profession, and his genial fellowship had won him a place in their affections from which he would never be dismissed.—In conclusion Sir Wm. Emerson unveiled the portrait and asked the Institute's acceptance of it on behalf of the subscribers.

THE PRESIDENT said it was a great privilege, and a great pleasure, to occupy the Chair on such an occasion, and to be the recipient on behalf of the Institute of so great a work of art, and it was an added pleasure when this work of art represented one of their most gifted and most distinguished Past Presidents. They all knew Sir Aston Webb's great talents and his distinguished career, but he should like to add that to all those who knew him there was something beyond even his great talents and his great career —there was the personality of the man himself. He could only regard Sir Aston Webb as an old friend, as a man who inspired with affection all those who had to deal with him. He quite endorsed every word Sir William had said with regard to their dear friend and Past President, Sir Aston Webb, and he was sure he had only to put it to the Meeting and they would receive this very valuable and beautiful work of art, his portrait, with acclamation. He should like to add that he had received a letter from Sir Aston Webb in which he expressed his regret that he should be unable to attend their meeting that evening. The letter went on: "I must say to you how much I appreciate the compliment (which the fact that it is a usual one to Past Presidents in no way diminishes) that my portrait should hang in such distinguished company on the walls of the Institute Meeting Room, where I have spent so much time, sometimes in friendly conference, sometimes in friendly combat, but always enjoyably, and my only regret is that I have reached the stage when I must leave the arena, make my bow, and hang lifeless upon its walls. It is the fate of all, and quite right that it should be so, and from our place of vantage on its walls I trust and believe we shall watch fresh and vigorous generations carrying on the work of the Institute with ever-increasing success—not weakly giving in to the clamour of every passing whim, but wisely steering a middle course with justice and foresight. Perhaps I may be allowed to say how admirably I think Solomon has justified his task, and the obligation I feel under to him. . . . I merely write this to assure you and the members of the Institute that I am not unmindful but very grateful for this, the last of many honours they have been pleased to confer on me; and for these and many other benefits I shall always feel deeply indebted."

The New County Hall Competition.

Some recommendations of the Establishment Committee of the London County Council in the matter of the proposed County Hall Competition have been made public during the past week, but the scheme has still to come up for the consideration of the general body of the Council, and it may be some weeks before the conditions are definitively arranged. The competition is to be in two stages, a preliminary and a final, there being two assessors in the former (Mr. Norman Shaw and Mr. W. E. Riley, the Council's architect) and three assessors in the latter—Mr. Shaw, Mr. Riley, and a third assessor to be selected by the competitors in the final competition. The cost of the building is put at £850,000. The Establishment Committee recommend that the following eight architects be invited to submit designs in the final competition:—Mr. John Belcher, Mr. William Flockhart, Mr. Ernest George, Mr. Henry T. Hare, Mr. T. G. Jackson, Mr. E. L. Lutyens, Mr. E. W. Mountford, and Messrs. Nicholson and Corlette. The competitors in the final competition will receive 200 guineas each. The successful architect would be assigned the work of carrying out the design in conjunction with the Council's architect, the successful architect receiving nine-tenths of the usual commission of 5 per cent. and the Council's architect receiving the remaining one-tenth.

The date for sending in designs for the preliminary competition is recommended to be 7th May next, and for the final competition 3rd October following. In the preliminary competition it is recommended that the assessors select in private not fewer than ten nor more than fifteen designs, the authors of these to compete with the eight selected architects in the final competition. Mr. Riley is to have discretionary power in all matters relating to internal economy, building construction, and stability.

An official copy of the proposals of the Establishment Committee may be seen in the Institute Library, but attention is called to the fact that these proposals are liable to extensive revision when the matter comes before the County Council.

The Codification of Water Regulations.

At the meeting of the Joint Committee on Water Regulations held at the Guildhall a few days ago, representatives of authorities and companies attended from Birkenhead, Bradford, Birmingham, Bury, Hull, Preston, Newcastle, Weardale, South Staffordshire, Stockport, South Hants, and the Metropolitan Water Board.

Mr. W. D. Caroe [*F.*], Master of the Plumbers' Company, was voted to the Chair in the absence of Dr. Crawford, Chairman of the Committee.

In opening the proceedings, Mr. Caröe said that if the Chairman had been present he would, no doubt, have remarked on the work of the Committee from the point of view of the Public Health Administrator and Water Authority. He himself regarded the matter rather from the point of view of the architect and consumer. From his own experience he found the greatest difficulty in dealing with the large number of varying regulations, and the Council of the R.I.B.A. would warmly welcome the codifying of water regulations, and the setting up of such standards for fittings as would represent, at any rate, an irreducible minimum of efficiency.

Mr. E. Antony Lees (Birmingham) presented the Report of the General Purposes Committee, together with a Draft Annotated Model Code of Regulations, with schedules attached setting out the specifications of water fittings, &c., compiled from reports of the various sub-committees, and prepared in form for publication.

On the motion of Mr. J. Watson (Bradford), seconded by Mr. Bancroft (Hull), the General Purposes Committee were empowered to conduct the necessary negotiations with the Local Government Board, with a view to the inclusion of the Draft Code framed by the Committee, in the Model Series of Regulations issued by the Board, for the purpose of local Acts and Provisional Orders, enabling Regulations to be made on the subject of the Prevention of Waste or Contamination.

Mr. W. D. Caröe [*F.*] and Mr. Fitzroy Doll [*F.*] were added as members of the General Purposes Committee.

Appointments, &c.

Professor W. R. Lethaby, F.S.A. [*F.*], has been appointed Surveyor of the Fabric of Westminster Abbey.

Sir Aston Webb, R.A. [*F.*], has been reappointed representative of the R.I.B.A. on the Court of Governors of the University of Sheffield.

Sir Aston Webb has accepted the invitation of the Council to represent the R.I.B.A. at the celebration at Washington, on the 8th January, of the Fiftieth Anniversary of the foundation of the American Institute of Architects. Sir Aston leaves for America on the 22nd inst.

The Joint Reinforced Concrete Committee have had placed at their disposal the General Meeting of the 27th May, when they will be in a position to report upon the various subjects of their inquiry [see Journal, 28 Apr. 1906, p. 338; 8 Dec. p. 96].

The late Henry Allen Prothero [*F.*].

Mr. Henry A. Prothero, of Cheltenham [*Fellow*, elected 1896], whose death occurred on the 25th ult., was born in 1848, and was educated at Cheltenham College (where he was Classical Medallist) and at Balliol, taking his M.A. degree in 1871. He was articled to the late Mr. John Middleton, and was afterwards associated in partnership with him, together with the late Professor J. H. Middleton and Mr. G. H. Phillot, the firm practising at Westminster, Newport, and Cheltenham. The most considerable monument to his talent is Cheltenham College Chapel, one of the comparatively few vaulted buildings erected in modern times, and recently enriched with reredos, organ, and carved stalls, in accordance with the original design. From 1886 to 1895 he was architect to the Ladies' College, Cheltenham. The alterations at Christ Church, Cheltenham, were carried out from his designs; and there are examples of his work at All Saints' and many other churches in and near Cheltenham. He was responsible for new churches at Leeds, Aberystwith, Carmarthen, Coeth Poeth, and Manordeifi; and he carried out a very large number of restoration schemes all over the country. In Cheltenham he designed the Delancey Hospital and the Children's Home. Other works include the Canterbury wing of St. David's College, Lampeter, St. Saviour's Homes, Hendon, Goodrich Castle, Ross, besides a large number of schools, vicarages, &c. Mr. Prothero was an ardent antiquarian, was a member of the Gloucestershire Education Committee, and took an active part in the University Extension movement in the district.

The late William Mackison [*F.*].

Mr. William Mackison, who has just died at the age of seventy-three, was elected Fellow of the Institute in 1865. He was a native of Stirling, and was educated in the High School of

Dundee. Having in view the law as a profession, he was first placed with a firm of solicitors, but left them shortly afterwards to enter the office of his uncle, the late Mr. Francis Mackison, architect of Stirling, when he decided to adopt the architectural profession. Mr. Mackison had a successful career at Stirling, many important buildings, residences and others, being erected to his designs in Stirling and the surrounding district. He held the offices of master of works, burgh surveyor, and town architect. The excavations at Cambuskenneth Abbey and the restoration of the fine old tower of the Abbey were carried out under his supervision. It was in recognition of this work that he was elected a Fellow of the Scottish Society of Antiquaries. In 1868 Mr. Mackison went to Dundee as Burgh Surveyor. Among his first works in his new post was the laying-out of the grounds around the Albert Institute, the formation of Balgay Hill and cemetery, and extensive works in connection with the Police and Improvement Act of 1871. The public baths, public cattle-market and abattoirs, the police stations and extensions, various hospitals, cleansing department buildings, skating-ponds, fish-market, &c., were designed and carried out under his directions. He prepared the Parliamentary plans for the street tramways, the esplanade, and river reclamation works, the Parliamentary plans for the boundary extension, &c. He also acted for a time as water manager. During the water famine he brought the water of the Fithie into the Crombie Reservoir, carried out considerable extension of town piping, and effected many improvements at Monikie. Mr. Mackison helped to found the Dundee Institute of Architects, was its first vice-President, and afterwards President.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1906-07, held Monday, 17th December 1906, at 8 p.m. —Present: The President, Mr. Thos. E. Collcutt, in the Chair; 26 Fellows (including 7 members of the Council), 31 Associates, and visitors: the Minutes of the Meeting held 3rd December 1906 [p. 98] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the Chairman, and signed the Register—viz. Claude Harrison, *Fellow*; Ernest Thomas Jago, *Associate*.

The following candidates, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election:—As FELLOWS (2): Charles Sydney Spooner; Thomas Harry Weston [*A.* 1895], Bristol. As ASSOCIATES (2): Matthew James Dawson [*Probationer* 1900, *Student* 1905, *Qualified for Assoc.* 1906]; Harry George Leslie, F.S.I. [*Special Examination*]. As HON. CORRESPONDING MEMBERS (16): Robert Boker (Member of the Imperial Society of Russian Architects), St. Petersburg; Louis Bonnier, President of the Société des Architectes diplômés par le Gouvernement Français, Architecte-en-Chef des Bâtiments Civils et Palais Nationaux (Paris); Frank Miles Day, President of the American Institute of Architects, Lecturer on Architecture at Harvard University, Philadelphia, U.S.A.; Jean-Joseph Caluwaers (Brussels); Mariano Eduardo Cannizzaro (Rome); Cass Gilbert, Vice-President American Institute of Architects (New York, U.S.A.); Georges Harmand, Avocat à la Cour d'Appel, Paris, Member of the Judicial Council of the Société Centrale des Architectes Français, Member of the Committee of Historic and Scientific Works at the Ministry of Public Instruction (Paris); Hermann Helmer, K.K. Oberbaurath (Vienna); Virgil Nagy, Building Councillor to the Kingdom of Hungary, Professor at the Hungarian Technical University (Budapest); Ludwig Neher (Frankfort-on-Main); George B. Post, Past President of the American Institute of Architects, Chevalier of the Légion d'Honneur (New York, U.S.A.); Jacques Maurice Poupinel, Architecte diplômé par le Gouvernement Français (Paris); Abraham Salm G.B.zn. (Amsterdam); Ventura Terra (Lisbon); Don Fernando Arbós y Tremanti, Member of the Spanish Academy of Fine Arts, Inspector-General of Works at the Ministry of Fine Arts, Madrid; Gustaf Wickman (Stockholm).

Sir William Emerson, *Past President*, having addressed the Meeting with reference to the professional career and work of Sir Aston Webb, R.A. [*Past President* and *Royal Gold Medallist*], unveiled, and, on behalf of the subscribers, presented to the Institute, the portrait of Sir Aston, painted by Mr. Solomon J. Solomon, R.A. [*H.A.*]. The President, having responded and accepted the gift on behalf of the Institute, read some extracts from a letter he had received from Sir Aston Webb with reference to the presentation.

Mr. W. J. Dibdin, F.I.C., F.C.S., read a Paper on THE STRENGTH AND COMPOSITION OF MORTAR, upon which a discussion ensued, and the proposition having been moved by Mr. Max Clarke [*F.*], and seconded by Mr. W. D. Caröe, M.A., F.S.A. [*F.*], it was

> RESOLVED, That this Meeting is of opinion that the question of the composition of mortar is a matter which deserves the fullest consideration, and with that end in view the Council be asked to devote a sum of money for further inquiry into the subject.

A vote of thanks to Mr. Dibdin for his Paper, moved by Mr. H. D. Searles-Wood [*F.*], and seconded by Mr. Wm. Woodward [*F.*], was carried by acclamation.

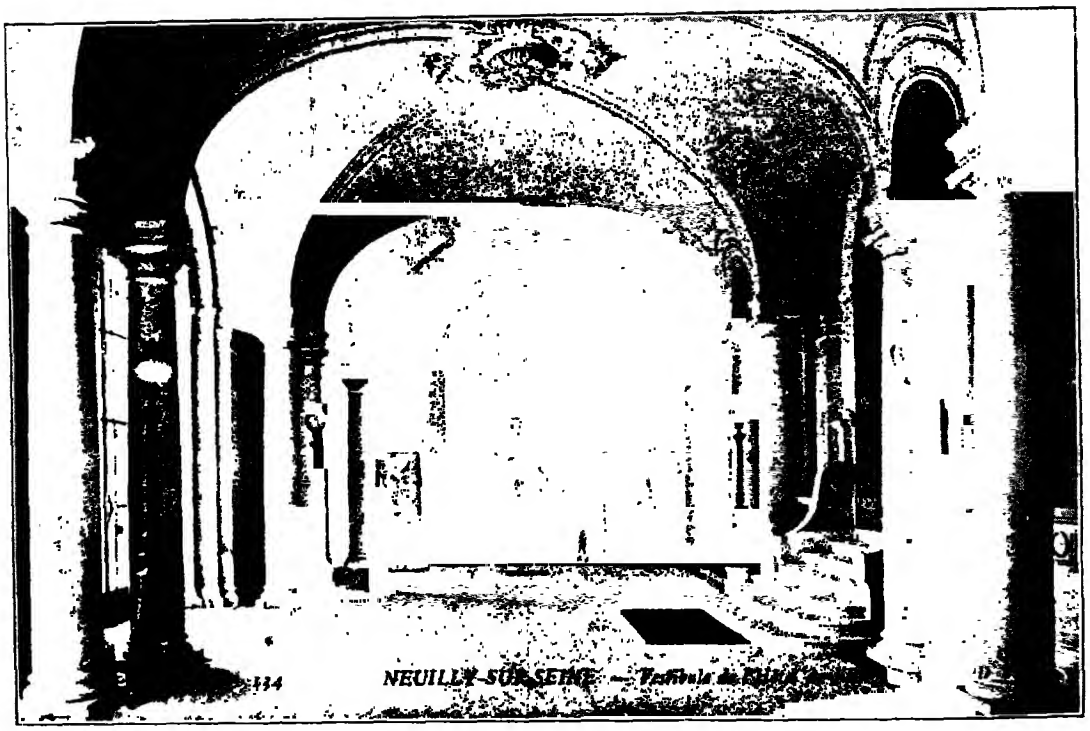
Mr. Dibdin, having responded to the vote of thanks, replied to various points raised in the discussion.

Mr. William Woodward [*F.*] gave notice that at the next meeting he would call attention to the terms of the competition for the new County Hall.

The proceedings then closed, and the Meeting separated at 10 p.m.

Discussion of 3rd December: A Correction.

Mr. W. J. Gilliland [*F.*], of Belfast, who took part in the discussion on the Fellowship Question at the Meeting of the 3rd December, points out that the concluding remarks reported at the end of Mr. Maurice B. Adams's speech (JOURNAL, p. 89)—viz. "There was another matter" down to "on the occasion referred to"—were uttered by himself (Mr. Gilliland), not by Mr. Adams, as reported. Further, the amendment which immediately followed, and which failed for want of a seconder, was not Mr. Gilliland's proposal, but another member's, whose name was missed by the reporter.



HOTEL DE VILLE NEUILLY-SUR-SEINE, PARIS: VESTIBULE.

MODERN TOWN-HALLS OF FRANCE: THEIR PLANNING, DECORATION, AND EQUIPMENT.

[*From the Godwin Bursary Report* 1905.]

By Fredk. R. Hiorns [A.], *Godwin Bursar* 1905.

PART II.—TWO TYPICAL "MAIRIES" OF PARIS.

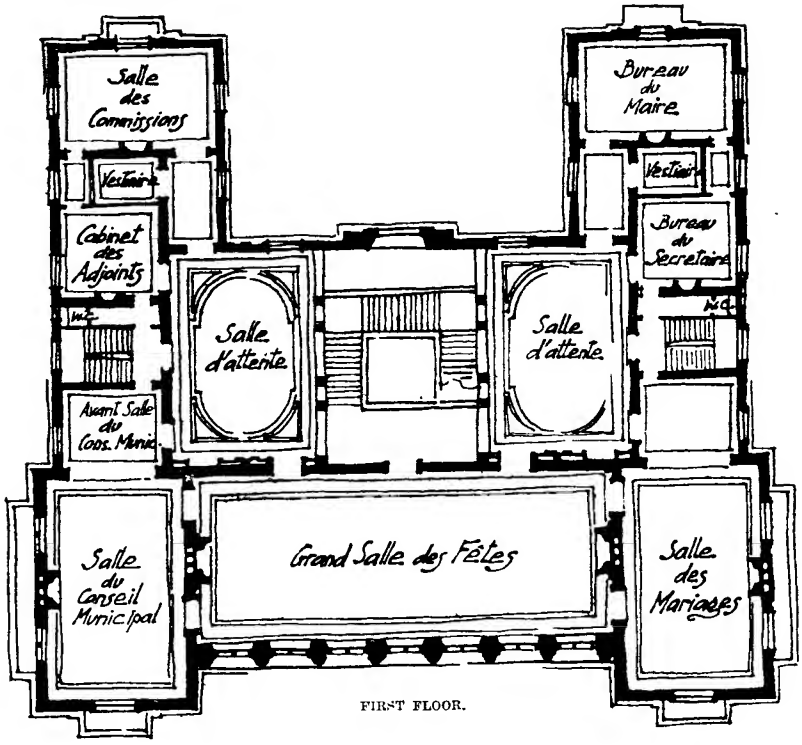
HAVING dealt with the Hotel de Ville of Paris, which is a building of a special type and importance, it might be well to mention what appear to be the more prominent characteristics of the average modern "mairie," viz.:—

(1) An imposing principal entrance, with vestibule, hall, and staircase leading to a suite of reception-rooms, usually on the first floor, comprising the Salles and Salons des Fêtes. These are used for civic receptions, and with their approach form the most noteworthy features of the building.

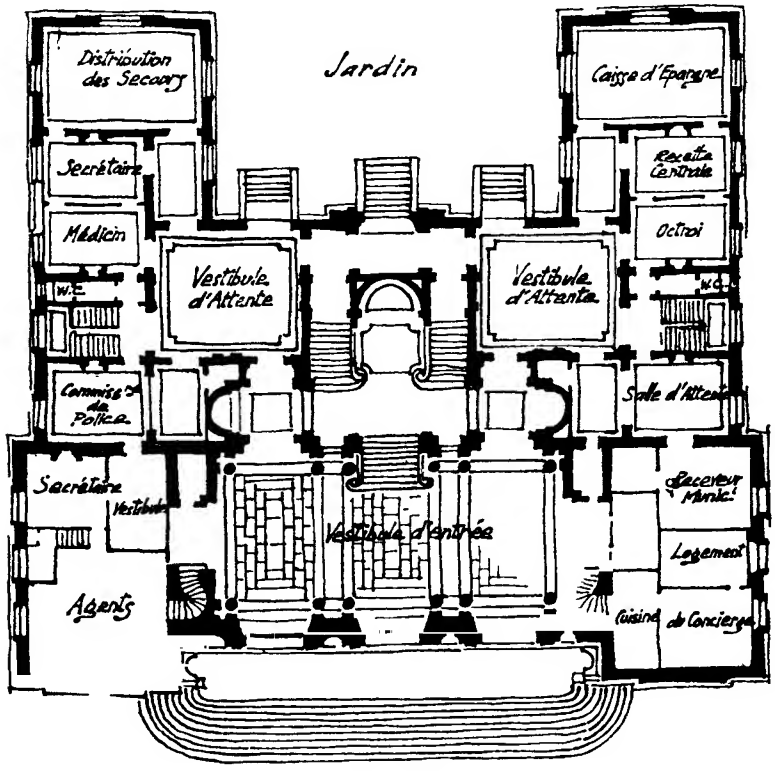
(2) Next in importance is the Salle des Mariages, with its ante-rooms, usually placed on the same floor as the Salles des Fetes, and frequently more or less *en suite* with them. The Mayor's apartments usually adjoin the Salle des Mariages.

(3) A municipal council chamber, also, as a rule, on the first floor, which, in addition to the seating for councillors and the mayoral "tribune," has accommodation for the public and the Press, as is customary in this country. An ante-room, a robing-room, one or two committee rooms, lavatories, &c., are the usual adjuncts.

(4) The Court of the Justice of the Peace, for the trial of petty offences, and usually



FIRST FLOOR.



GROUND FLOOR.

THE HOTEL DE VILLE, NEUILLY-SUR-SEINE, PARIS.

placed on the ground floor, with Judges' apartments and Police Department in proximity. A special entrance from the street is usually provided.

(5) On the ground floor, also, a Salle de Réunions, or small public hall, is commonly found, used for concerts, lectures, &c., for the benefit and pleasure of the inhabitants. This should have a special entrance also.

The principal rooms being of considerable size and height, it is common to find the portions of the building occupied by the subsidiary administrative offices, &c., arranged with intermediate or mezzanine floors—a convenient and economical arrangement. The offices provide for the Secrétaire-Général and his staff, Public Works Department, registrars of births, deaths, and marriages, building inspectors, poor relief, &c., and concierge.

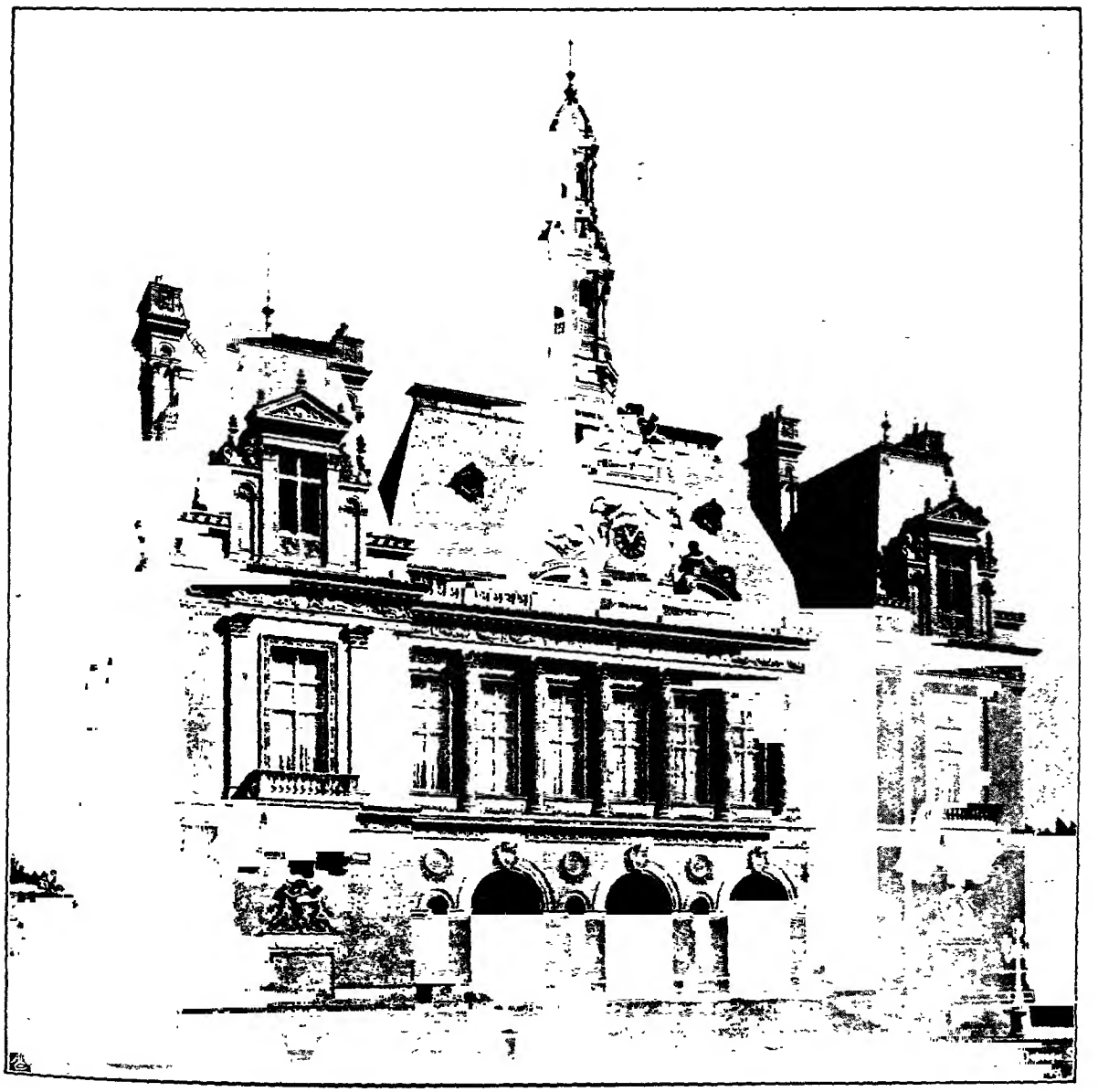
There are special staircases to serve these offices, the principal staircase being reserved for ceremonial occasions and important marriages.

THE HÔTEL DE VILLE, NEUILLY (PARIS).

The township of Neuilly-sur-Seine lies just outside the fortifications, on the west side of Paris. It was once a hamlet in the midst of a forest, of which only the Bois de Boulogne now remains. Its municipal council was constituted in 1790. Thanks largely to the magnificent roads that link her directly to Paris, Neuilly has become one of the most beautiful quarters of the capital, with numerous fine and stately buildings. The accommodation for the Municipality provided in the old "Mairie" eventually becoming inadequate and unsuited to the increasing population, a new building to replace it was projected in 1879. In the architectural competition for the building of a new Hôtel de Ville which followed, M. André, of Lyons, gained the first place out of sixty competitors. M. André, however, through pressure of other work, was unable to undertake so important a commission, and it was eventually entrusted to MM. Dutocq and Simonet, architects of Neuilly, who were also premiated competitors. It was stipulated that M. André's façade should be retained, though some modifications even in this were afterwards made, and various adjustments and alterations in the size and planning of the building consequent on more careful consideration of the problem and a reduction of the proposed expenditure. Much credit is no doubt due to MM. Dutocq and Simonet for the excellent building resulting from their skilful execution of the task entrusted to them. The new building was commenced in 1882 and completed at the end of 1885.

The plan is rectangular and symmetrical, with side wings projecting at the back, beyond which is a small public garden attaching to the building. The building is open all round, and the roads adjoining are wide. The principal front faces the Rue de Roule, and has a length of 40 metres. In the centre are three arched doorways, reached by a flight of steps, extending the whole length of the central portion of the façade, which lead into the large entrance vestibule. Off the centre of the long internal side opposite is the grand staircase leading to the ceremonial and reception rooms on the first floor—Salles des Fêtes, Mariages, Conseil Municipal, &c. Conveniently planned near to the Salle des Mariages are the apartments of the Mayor.

From the secondary vestibules at the sides of the main staircase, and which are used in connection with the administrative entrances at the back of the building, there lead the two service staircases of the offices. The building has two principal floors—the ground and the first floor—and also a basement, mezzanine floor, and some rooms in the roof. The plans explain the accommodation provided on the two principal floors, and the section their form and arrangement. On the mezzanine floor, between ground and first floors, are the offices of the Secrétaire-Général, Public Ways and Sewers, the town architect, and the registrars of births, deaths, and marriages. In the basement are installed the heating boilers and



HÔTEL DE VILLE, NEUILLY-SUR-SEINE, PARIS (MM. DUTOCQ AND SIMONET, ARCHITECTS).

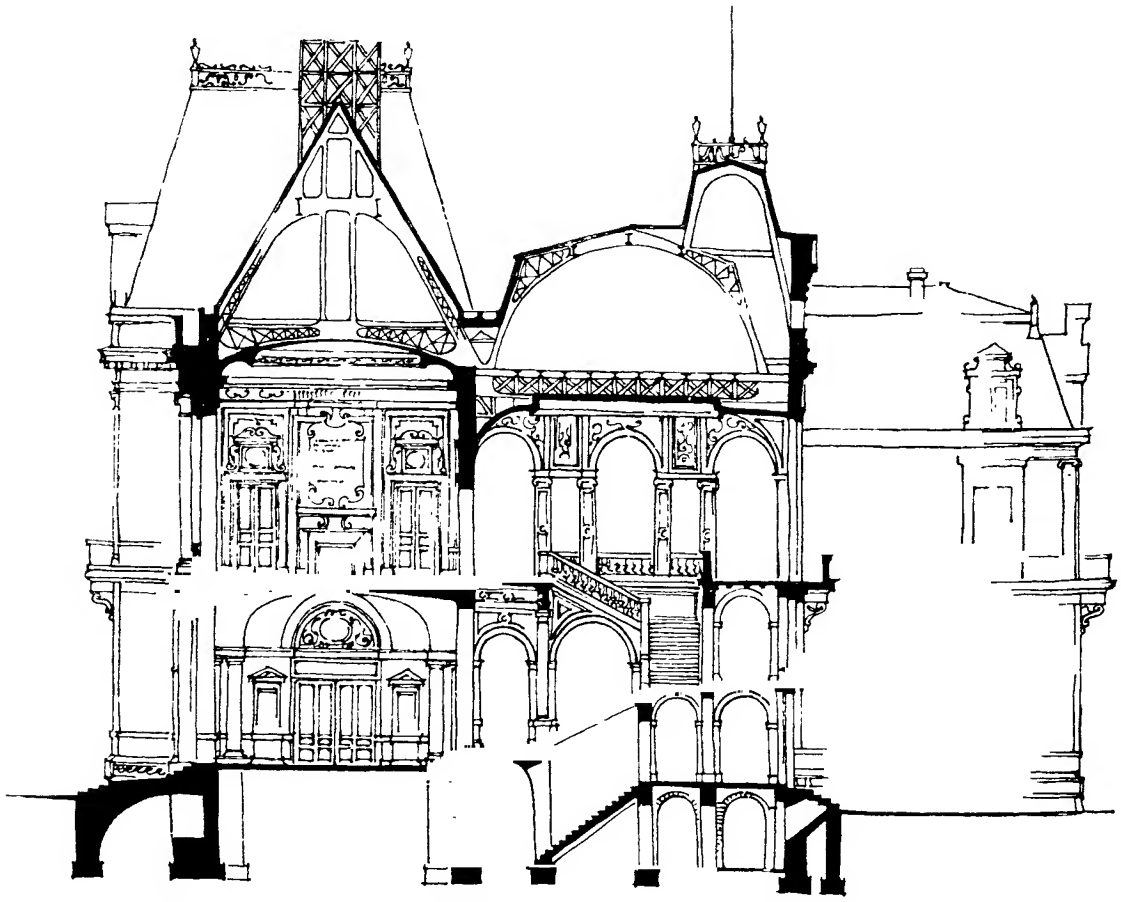
the apparatus for introducing warm air to the principal rooms above; also an "archives" store, general store, and a few prison cells.

The building has concrete foundations on a soil of chalky sand. The basement walls and external walling generally are in "meulières" stone, laid in hydraulic lime mortar (Beffes), with superior stone facings where required. The latter include Ravières, a specially hard variety of stone used for plinths, columns, arches, abutments, &c., "banc royal de Méry" and "Marly" stone for the bulk of facing in the principal façades. The upper stage of the exterior, including dormers, clock pediment, chimneys, &c., is in "Parmain," which appears specially suited for fine carving. In the interior the main division walls are of rubble masonry in hydraulic mortar, with the thinner partitions in brick. The internal facing of the ground and

first-floor vestibules and principal staircase appears to be mainly of "Parmain" stone, the steps themselves being in white "échaillon," and the staircase handrails, about a foot in width, of a fine, hard, polished plaster similar to Parian.

The floors generally are of concrete and iron joist construction, with vaulting of bricks or fireclay blocks. The floors of the Staircase Hall and Salles d'Attente are paved with stone and mosaic.

The mansard roofs are mainly of iron construction (see section), uprights, purlins, and cross-ties and bracing, with wood slating battens on to which the slates are wired. The



THE HOTEL DE VILLE, NUEILLY-SUR-SEINE, PARIS: SECTION AT RIGHT ANGLES TO PRINCIPAL FAÇADE.

"flèche" (43 metres high above ground) is also of iron framing, carried on two plate girders a metre in depth, with a circular staircase for access to the outside galleries, from which fine views over Paris are obtainable. The roofs are covered with "Angers" slates, and the gutters and ornamental flashings and other embellishments are of lead and zinc.

The two smaller staircases are formed with H-iron strings, plate iron risers, and stone treads, supported on small angle irons riveted to strings and risers.

The building is heated by warmed air supplied from the two basement heaters. The larger apartments have openings in the ceiling above the electroliers for the escape of vitiated air.

The building is designed in the style characteristic of the later French Renaissance, with refined detail, and will probably be conceded a well-proportioned and elegant example of

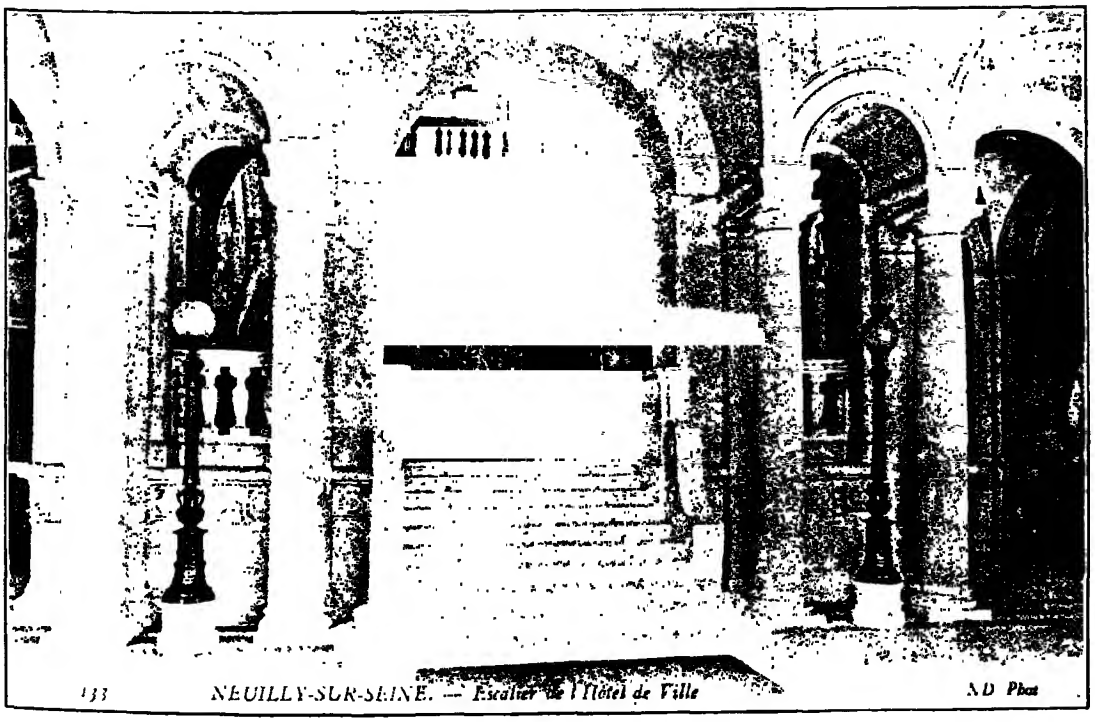
the phase of architecture which it illustrates. The sculpture is by MM. Tony Noel, Barrias, Gaud, and others.

The recumbent figures at the base of the masonry setting of the clock represent the "Duties" and "Rights" of man, the supporting female figures "Day" and "Night," while infants at the apex hold a cartouche inscribed with the name of the town.

The sculptured frieze of the external Corinthian order and the panels at the base of the projecting front pavilions are noteworthy pieces of work.

The garden square at the back of the building is a pleasing feature in the *ensemble*, and is open at certain hours for the use of the inhabitants.

The cost of the building was 1,500,000 francs (about 1,220 francs per square metre), and about 180,000 francs has so far been spent on painted decorations and sculpture. The cost of



HÔTEL DE VILLE, NEUILLY-SUR-SEINE, PARIS: STAIRCASE.

the steel constructive work was 152,500 francs, and of the ornamental ironwork 26,000 francs, or over £1,000, while the lustre lamps absorbed an almost equal amount—25,000 francs.

From a decorative standpoint the building is as yet incomplete, and paintings and mosaic intended for the embellishment of its walls and ceilings have been carried out to a small extent only. Some internal sculpture groups, of which there are several in the vestibule and staircase hall, exist at present in the form of plaster models only.

The central panel of the ceiling above the main staircase has already received a painting, and also the internal side wall of the Salle des Fetes. This latter apartment, the decorative treatment of which is in the style associated with Henri II., is of elegant proportions and delicate colouring in buff and gold. The paintings above the dado of the side wall illustrate scenes in French history. The large lunettes above the marble chimney-pieces at each end

of the room are intended to receive paintings or tapestries, with sculpture at the base supported on the projecting chimney-breasts. The ceiling is deeply coffered and enriched. The floor is of polished oak blocks, and the furniture upholstered in a material of an electric blue colour. Although at present in an unfinished state, over £1,000 has already been spent in the decoration of this room.

The other rooms are of some interest, but unfinished: the Municipal Council Chamber at the date of my visit was undergoing alterations, and was in a state of complete disorder.

The sizes of some of the principal apartments are as follows:—

Entrance Vestibule . .	18·50 metres by 9 metres by 7·50 metres high (60½ feet by 29¼ feet by 24½ feet high).
Salle des Fetes . . .	22 metres by 9 metres by 8·70 metres high (72 feet by 29¼ feet by 28¼ feet high).
Salle des Mariages . .	12 metres by 7·50 metres by 8·70 metres high (39 feet by 24½ feet by 28¼ feet high).
Salle du Conseil Municipal .	Do. Do. Do.

THE MAIRIE DU Xme ARRONDISSEMENT, PARIS.

An architectural competition took place in 1889 for designs for this building, the first place being won by M. Eugène Rouyer, a distinguished French architect, who in the year 1873 had taken second place in the competition for the Hotel de Ville of Paris. The new Mairie has been carried out from M. Rouyer's designs and under his direction, with M. René Dulong, architect, as his principal inspector. M. Rouyer died in 1901, only a few years after the completion of the structure.

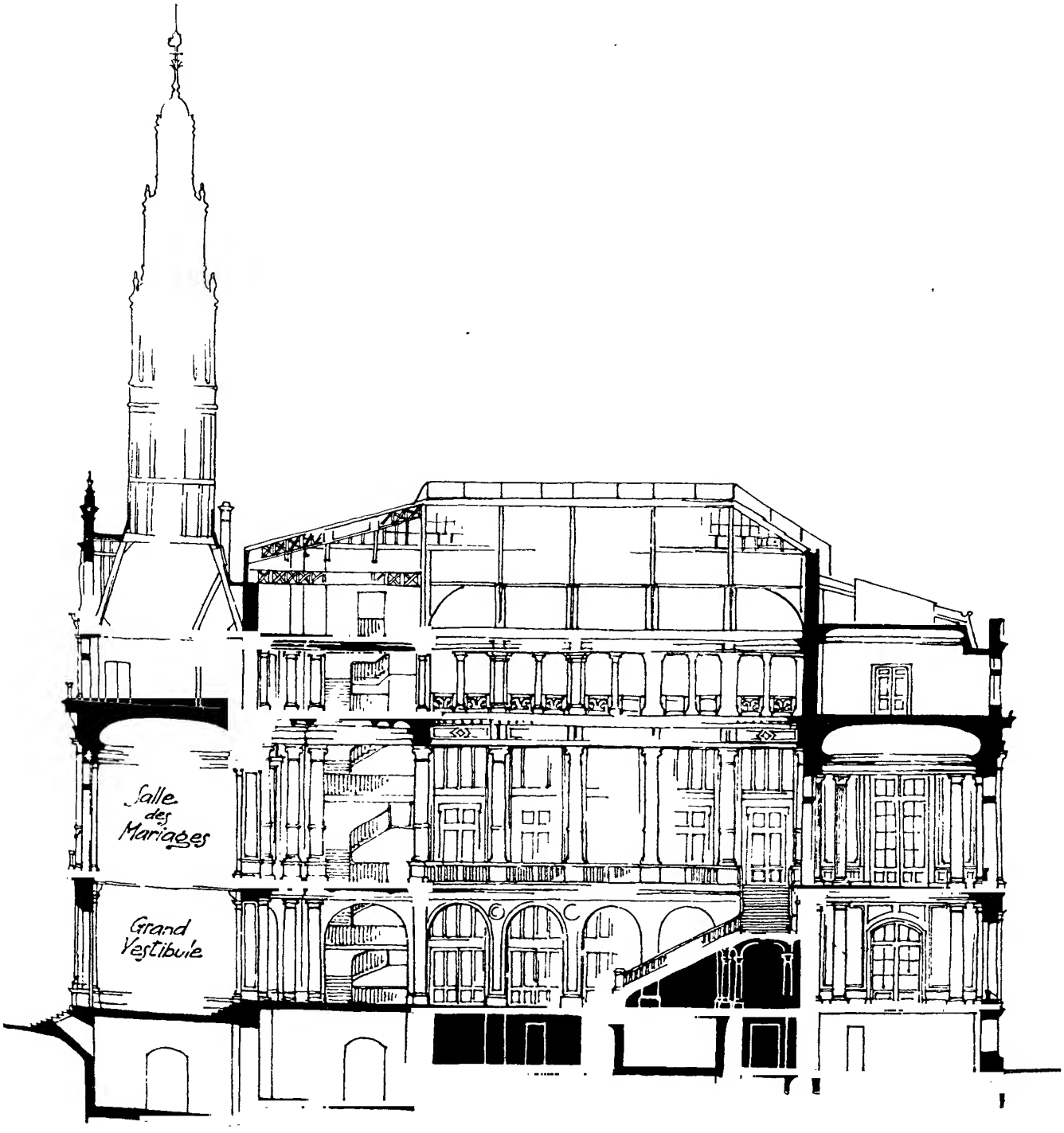
Broadly speaking, the building is planned on four sides of a square, with a large central court or hall, the full height of the building being covered by a glass roof springing from the low "order" around the top story. This central space forms the reception hall, from which the principal staircase leads to the Salle des Fetes, and, by means of the circumscribing galleries, to the Salle des Mariages, &c.

The size of the central hall is 20·10 metres by 12·66 metres (66 feet by 41½ feet), and it is arcaded at the sides from the ground floor to the first-floor level, and colonnaded from the first floor to the second, with galleries round at both these stages. This is explained by the section through the building showing the interior of the hall. The height to the lantern is about 20·50 metres, or 67 feet. The floor is of mosaic.

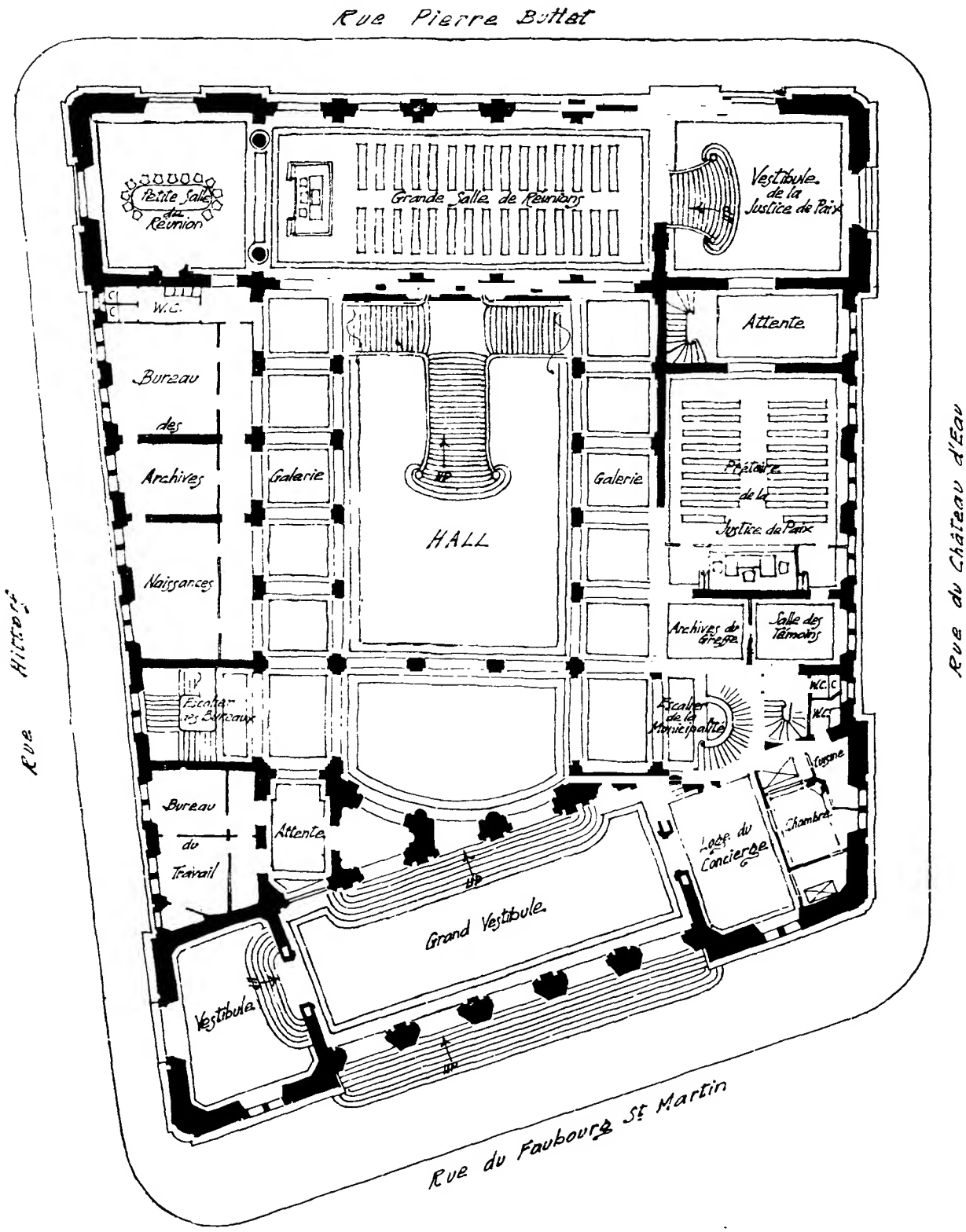
A sort of ante-hall occurs between the great hall and the entrance vestibule, which the irregularities of the site necessitated being placed at an angle with the main axial line. A point worthy of note is the skilful way in which the junction between these two apartments is planned. The vestibule itself (21·90 metres by 8·40 metres by 7·56 metres high) is reached from the road by five openings 2·50 metres in width, filled with metal grilles of beautiful design and workmanship, having steps leading up thereto from the road. Beyond are others between the vestibule and the ante-hall.

The administrative offices are placed along the two sides facing the Rue du Château d'Eau and Rue Hittorf, and have mezzanine floors and service staircases opening off the ante-hall.

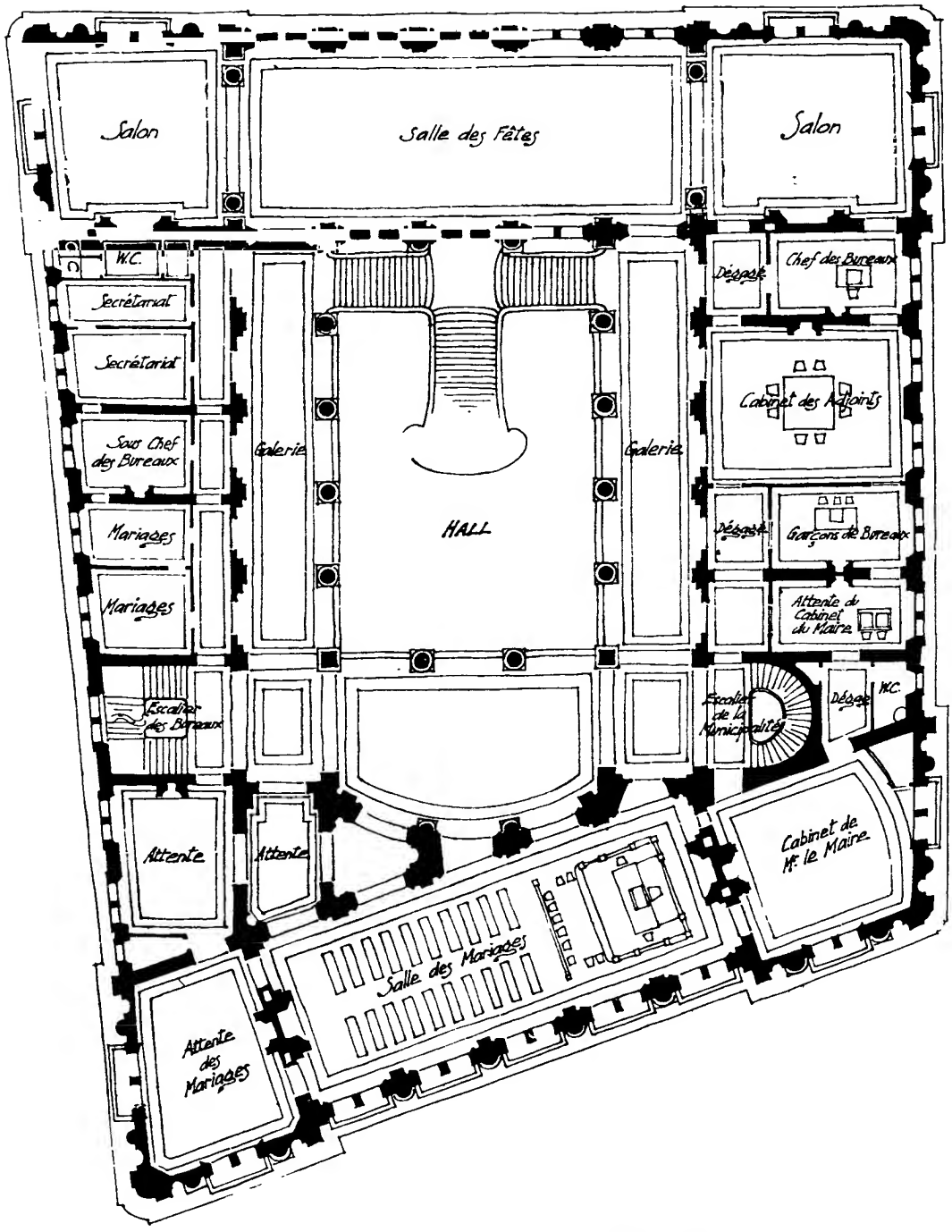
The principal staircase is about 3·20 metres in width and of stone, but with this exception practically the whole of what appears to be stone facing throughout the vestibule and central



MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS: LONGITUDINAL SECTION.



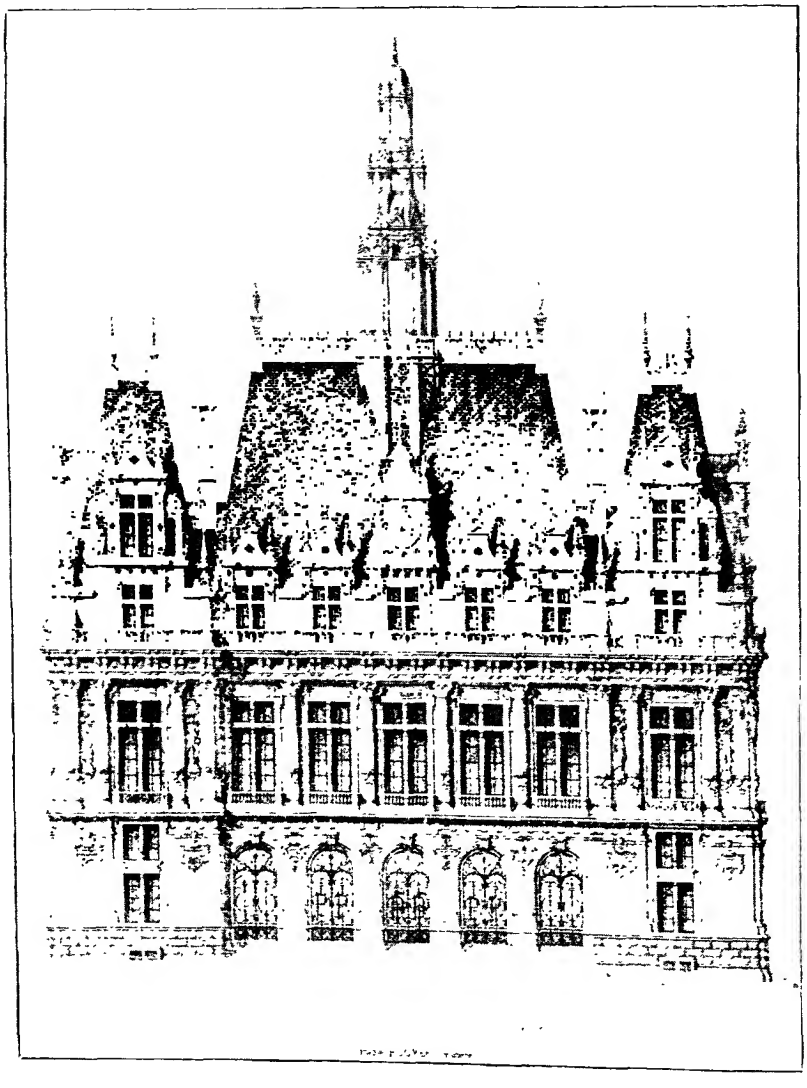
MAIRIE OF THE TENTH ARRONDISSEMENT PARIS: GROUND-FLOOR PLAN.



MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS: FIRST-FLOOR PLAN

hall is stucco plaster blocks, unfortunately of such a soft character as to be already badly chipped and damaged. The whole is uncoloured. On the wall above the intermediate landing of the staircase is a tablet in polished red marble recording the inauguration of the building in 1896.

The Salle des Fetes (including the end salons) is 42·50 metres long (139 feet), 9 metres



MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS: PRINCIPAL FAÇADE.

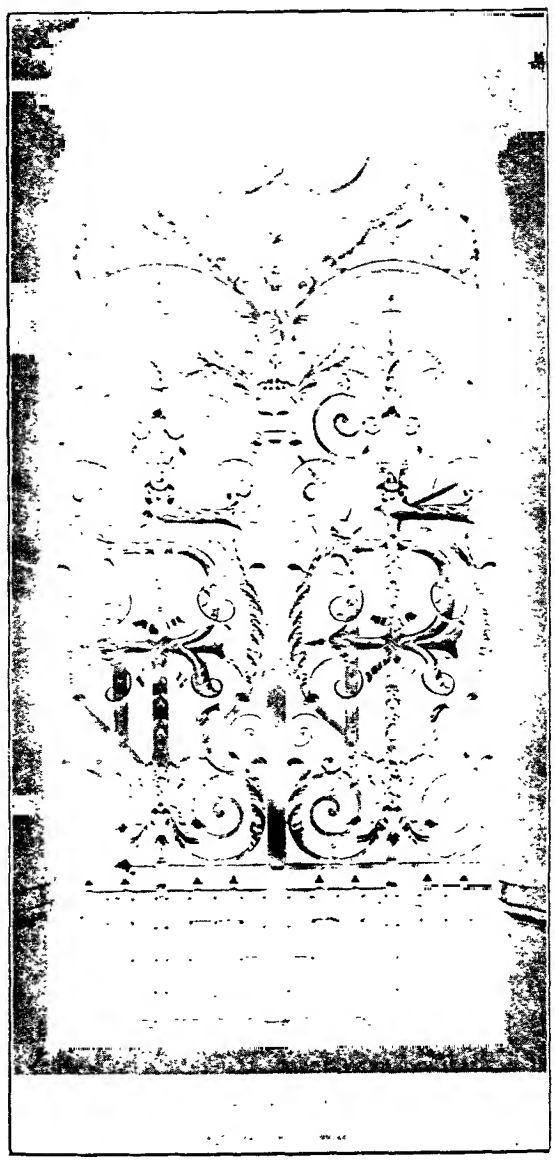
wide (29½ feet) by the same dimension in height. The colour decorations are in a greyish buff and gold, but look old and neglected: in fact, the whole building suffers from neglect and disrepair, resulting apparently from lack of the funds necessary to do what is required. The execution of various paintings proposed for the decoration of this room has not yet been attempted, and the same remark applies to the other principal apartments.

The floor is of hardwood parquetry. The ceiling is partly flat and plain, with large coves above the cornice, around which electric lamps are ranged at intervals. On the pilasters

ranging round the walls of the room are electric lamp brackets, and there are pendant electroliers in the centre of the salons.

The fireplaces are not yet formed.

The Salle des Mariages (21·90 metres by 8·40 metres by 9 metres in height) has a



METAL GRILLE TO ENTRANCE DOORWAYS, MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS.

similar general treatment to that last described, and the same evidence of neglect. The furniture, however, is of mahogany, beautifully carved and upholstered in red velvet. There are two steps up to the daïs, and three to the Mayor's chair. The fireplaces here also are not completed, the spaces where they are to occur being covered with wood casings and hangings. The floor is of polished hardwood as before. The windows are glazed with tinted and leaded glass.

The Salle de Réunions and Court of the Justice of the Peace have a common entrance and a vestibule. The dimensions of these two apartments are 21·75 metres by 9 metres by 6 metres, and 11·75 metres by 9·75 metres by 8·50 metres respectively, but they are of no special architectural interest.

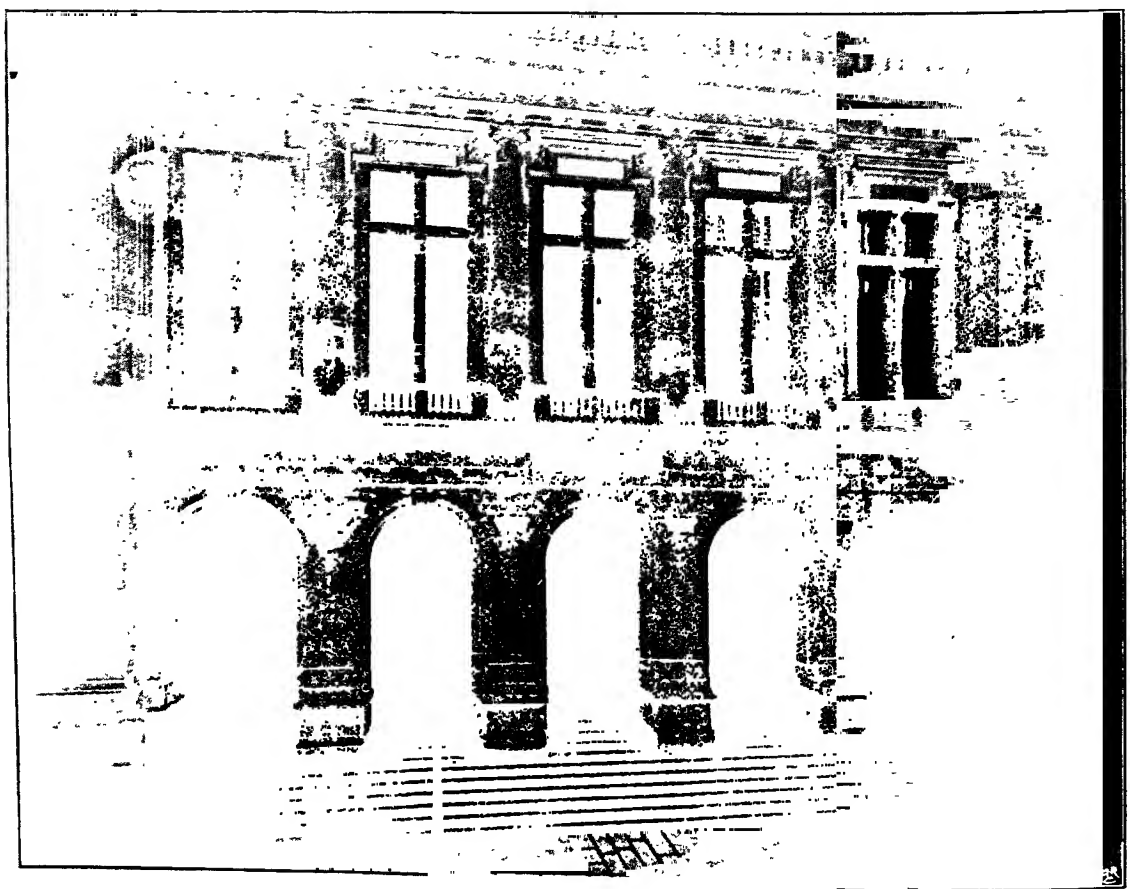
The heights of the principal floors of the building are:—

From ground to first floor . . .	6·59 metres
From first to second floor . . .	9·37 metres
Third floor . . . . about	4 metres

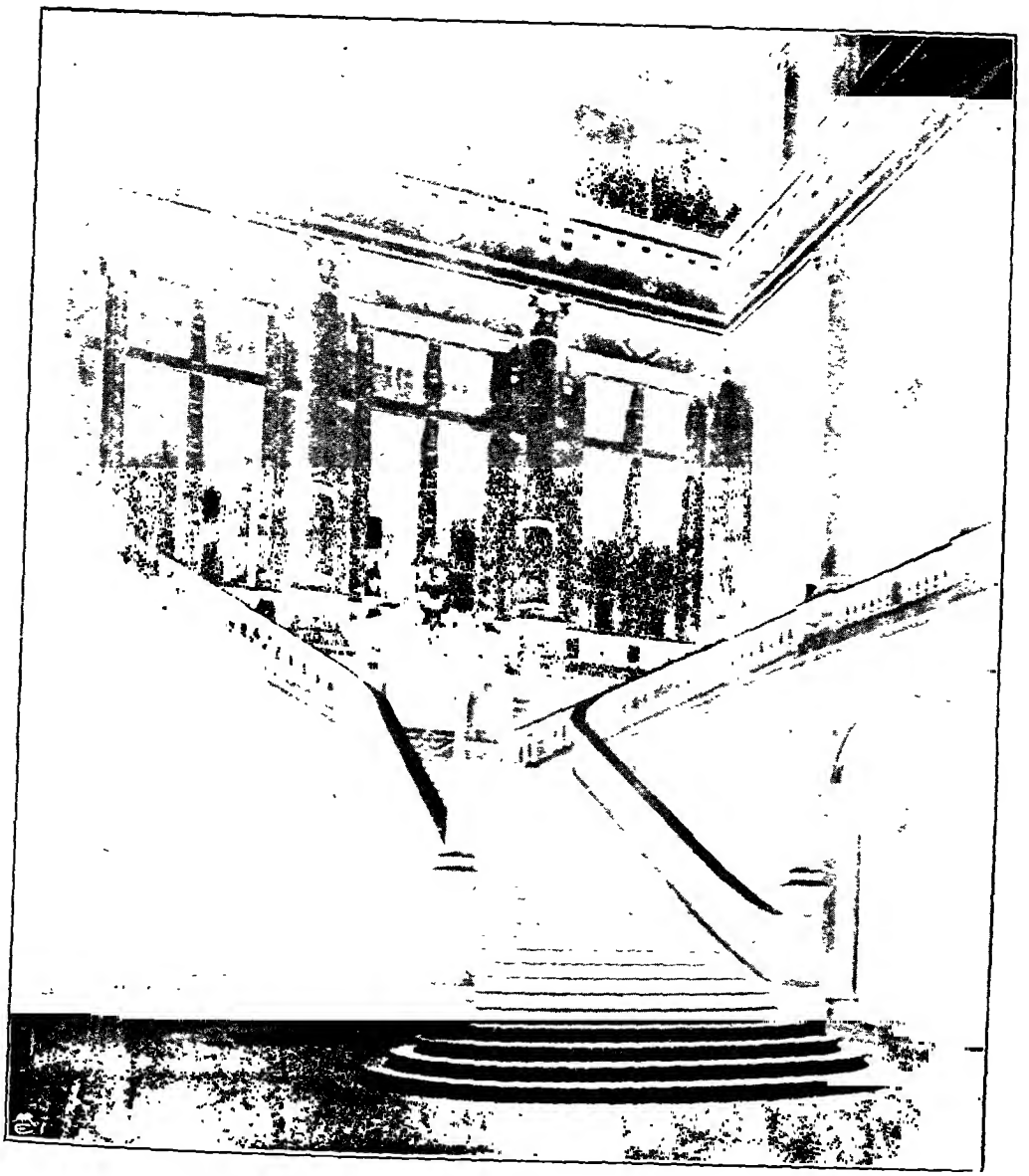
The exterior of the building is faced entirely with stone, and designed in the style of a somewhat florid period of the French Renaissance. It is considered by many one of the finest pieces of work of its kind done in Paris in recent years. The mass grouping looking from the Faubourg St. Martin towards the principal façade is very pleasing and effective. The stone carving by M. Margotin should also be noted, as shown, for example, in the photograph of the entrance doorway to the Justices' Court [p. 140]. The front entrance doors are fine examples of modern metal-work.

The district in which this Mairie is placed seems a poor one, and the neglect which is so noticeable in the building is much to be deplored.

The warming of the building is effected by low pressure steam with pipes concealed



PORTION OF ENTRANCE FRONT, MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS



CENTRAL RECEPTION HALL, MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS.

behind window backs, &c., as at the Hotel de Ville. No special provision appears to have been made for extract ventilation.

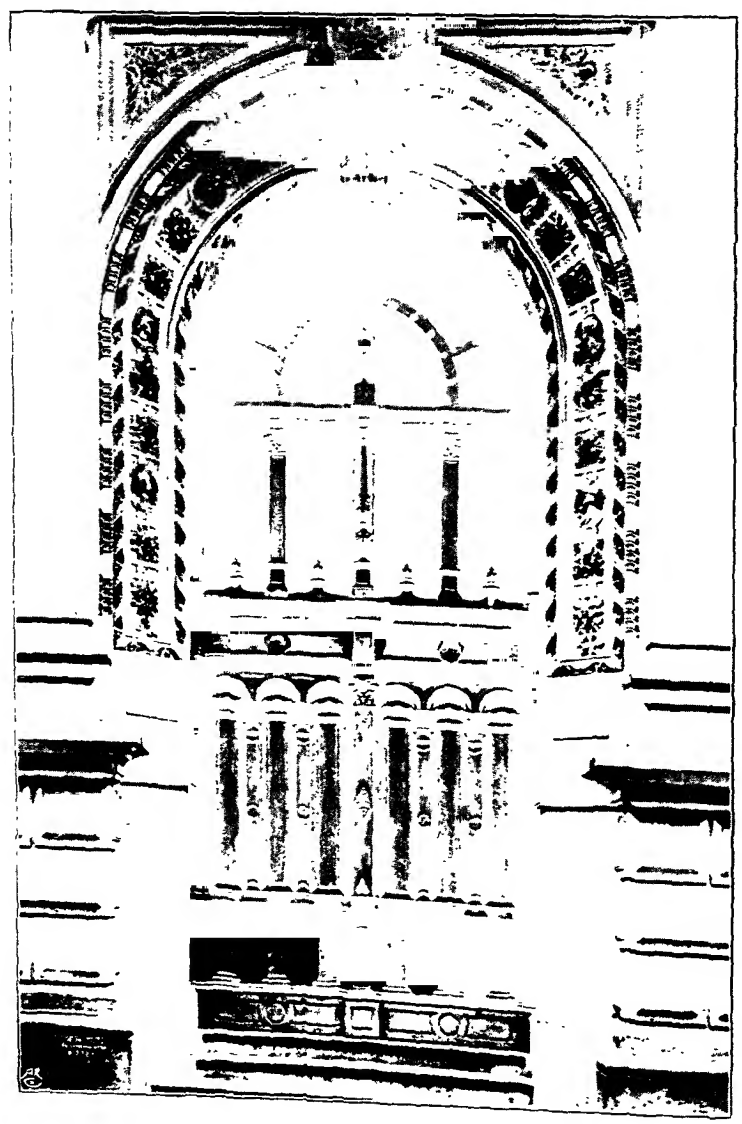
According to M. Dulong, there is nothing of special constructive interest in the building: the floors are of iron construction combined with brick or plaster, as in most Parisian structures.

The cost of the building amounted to nearly 3,000,000 francs.

N.B.—Since the above notes were written the following note has appeared in *The Builder* relative to the decorative completion of this Mairie:—"The Municipal Council have now taken the matter up, and have selected the artists who are to put the finishing touches to the building. The two principal fronts are to be decorated with eight stone statues symbolising the principal industries of the quarter. Those on the façade towards the

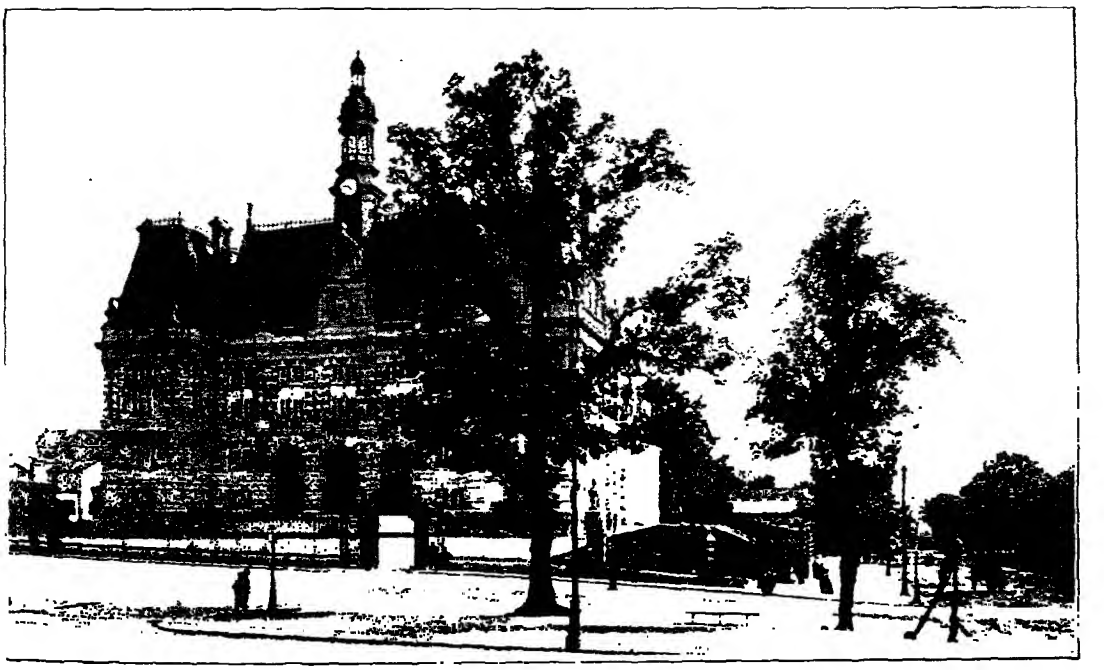
Faubourg St. Martin are to represent river navigation, glass work, embroidery, and ceramic ware: these will be executed by MM. Barrau, Démaille, Morcel, and Larche. The four on the façade towards the Rue du Château d'Eau are to represent silversmith's work, artificial flowers, perfumery, and theatrical art. They will be executed by MM. Carlus, Caussé, Cretien, and Gaston Leroux. In the interior M. Henri Martin is to take in hand the large panel in the Salle des Mariages, and a number of other artists, among whom are MM. Paul Badouin and Béroud, are to paint the vertical panels and the ceilings of the two rooms which adjoin the Salle des Fêtes. A sum of 118,000 francs has been voted for the work."

As no mention is here made of the Salle des Fêtes itself, the painted decorations for this room are apparently not covered by the present scheme.



DOORWAY TO JUSTICES' COURT, MAIRIE OF THE TENTH ARRONDISSEMENT, PARIS.

(*To be continued.*)



HÔTEL DE VILLE, VERSAILLES.

MODERN TOWN-HALLS OF FRANCE: THEIR PLANNING, DECORATION, AND EQUIPMENT.

[*From the Godwin Bursary Report* 1905.]

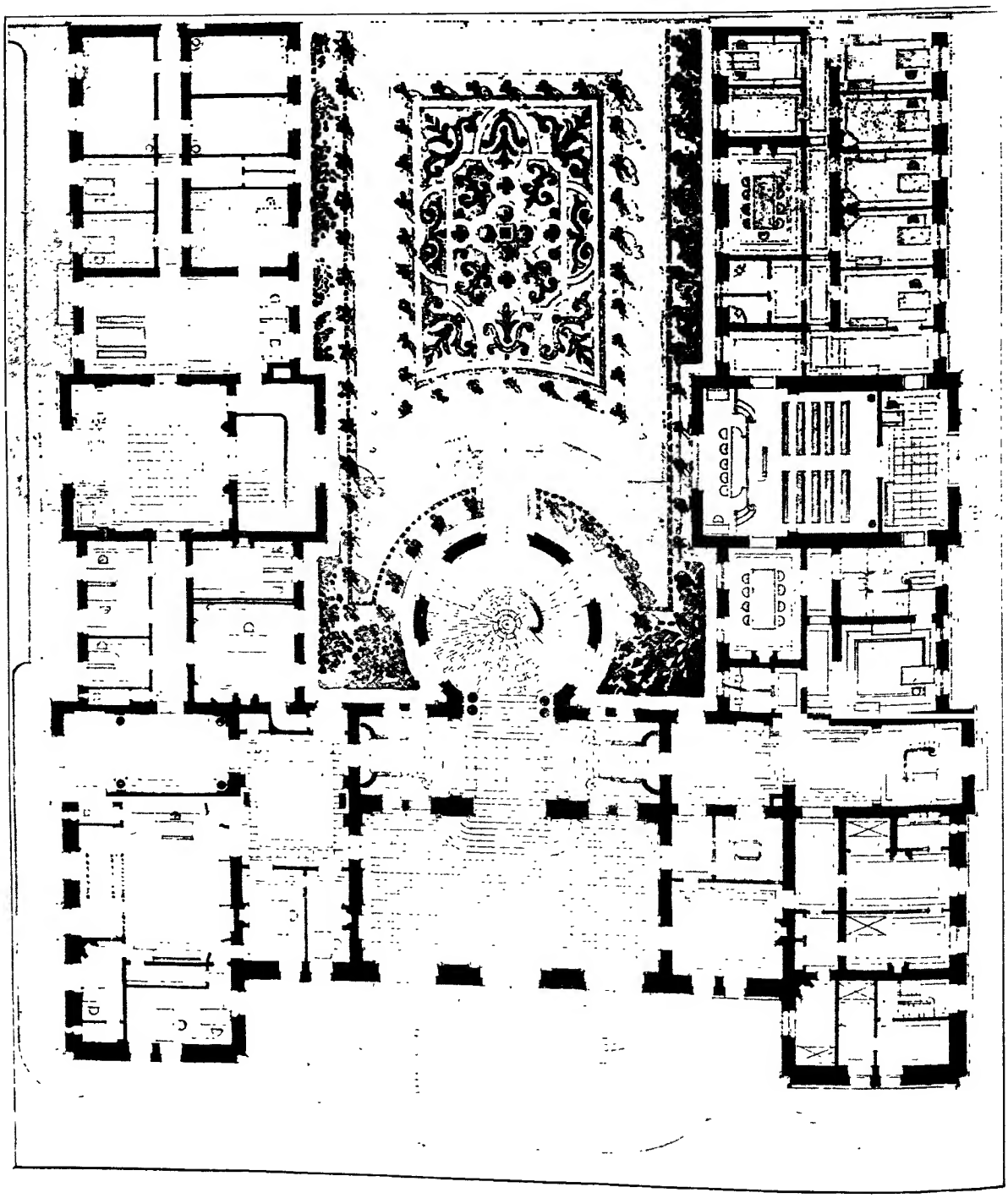
By Fredk. R. Hiorns [A.], *Godwin Bursar* 1905.

PART III.—THE HÔTEL DE VILLE, VERSAILLES.

THE township of Versailles, distant about eleven miles from Paris, owes its celebrity to the famous palace, of immense size and magnificence, built there for Louis XIV., reputed to have cost £40,000,000, and in the construction of which 36,000 workmen were engaged. At Versailles were born Louis XV., Louis XVI., Louis XVIII., Charles X., and other royalties and persons of eminence. The town itself is laid out in a grandiose manner, with regular and spacious roads, imposing buildings, and large open spaces; it is, moreover, the seat of a bishopric, and possessed of many military and revolutionary associations. The population includes about 45,000 persons.

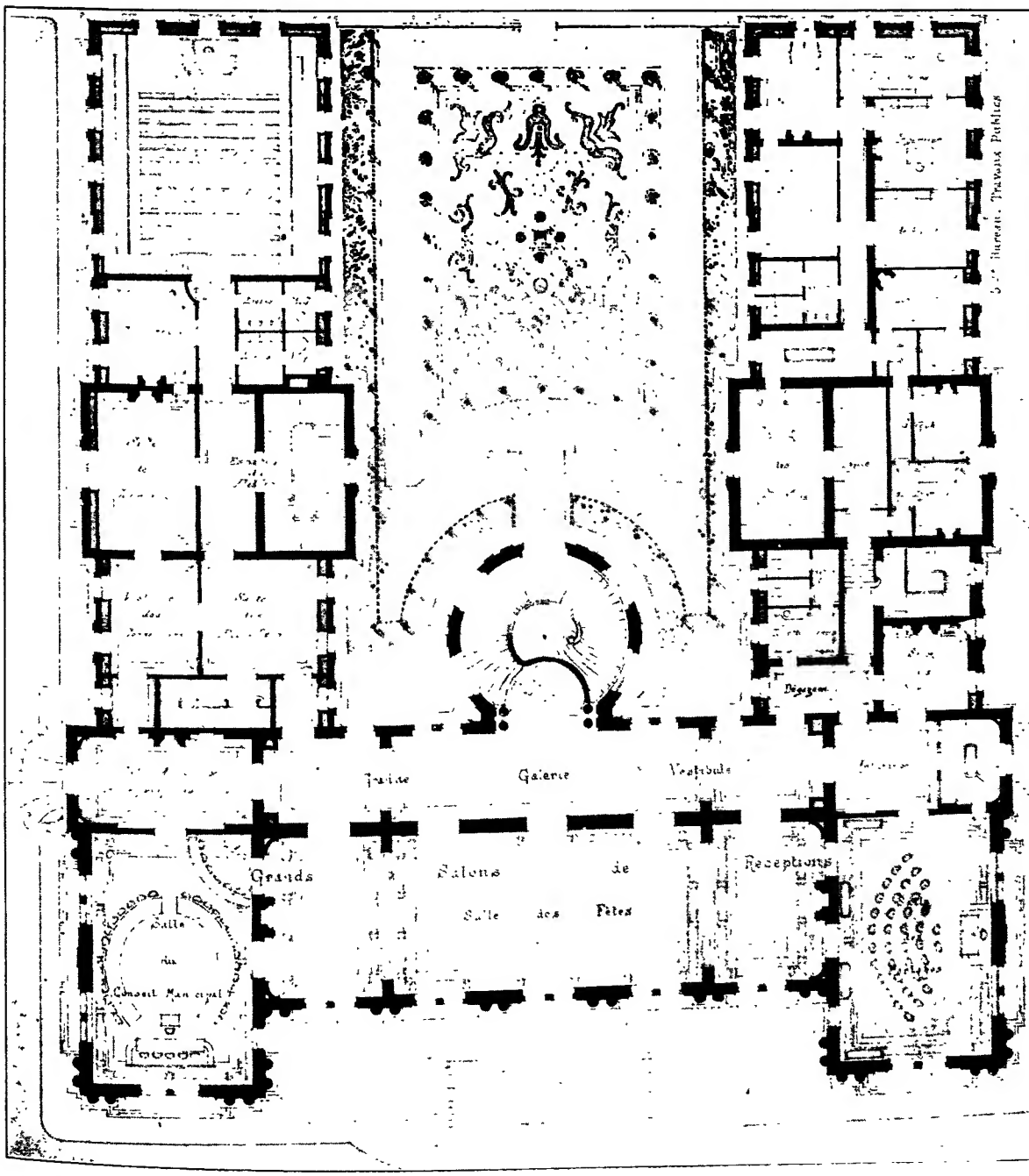
The Municipality of Versailles was constituted in 1787 by Louis XVI., who granted shortly after that date the ancient Hôtel de Conti for the use of the Council. This building was once the residence of the Princess de Conti, one of the daughters of Louis XIV., but was acquired from her in 1719 by one Bosq, a financier who appears to have somewhat spoiled it, and it was subsequently repurchased by Louis XV. as a residence for his *grands maitres* in the year 1723. The first of these to occupy it was the King's chief Minister, the Duke of Bourbon, who had the building decorated in a manner befitting his dignity. This scheme included the execution of portraits and other paintings by artists of distinction of that day, which later appear to have passed into the possession of the Municipal Council, and some to have found a place in the Hotel de Ville. The Municipality obtained a lease of the Hotel de Conti in 1823 for use as a town-hall, and between then and the year 1872, when the

building was reconstructed, but apparently not increased in size, there appears to have been continual discussion and the preparation of schemes for dealing with a building obviously unsuited to the purpose for which it was used. A fine design made by M. Lefuel, a native of



THE HOTEL DE VILLE, VERSAILLES: GROUND-FLOOR PLAN

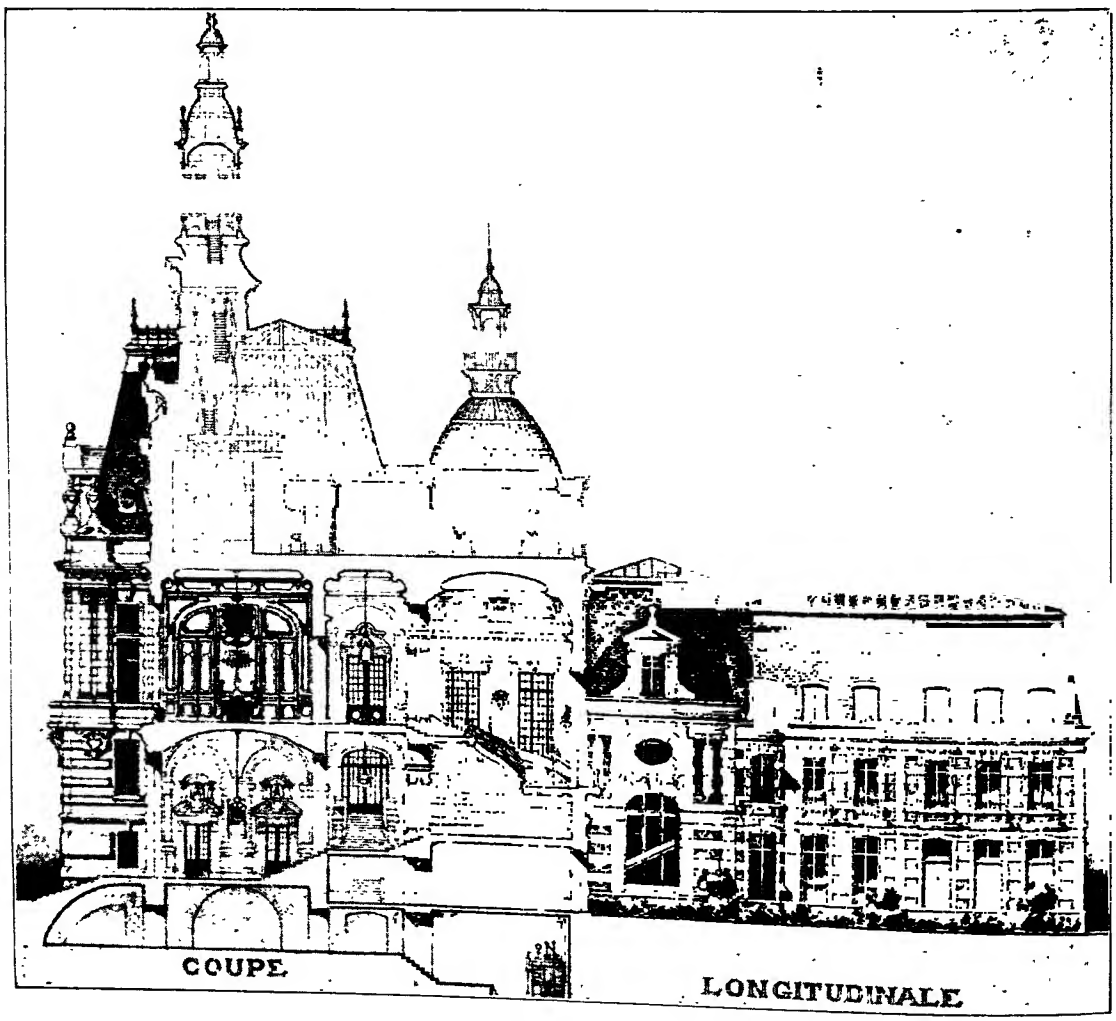
Versailles, and famous as the architect of the Tuileries Palace, shared the fate of other schemes, and was never carried out. In fact, the Hôtel de Ville of Versailles appears to have been a sort of municipal "bugbear" which had furnished material for election addresses for fifty years and more. It remains a matter for satisfaction that, in spite of the many changes which took place in the ancient building at that time, some of its charming decorations, which included



THE HÔTEL DE VILLE, VERSAILLES: FIRST-FLOOR PLAN.

paintings by Pierre Denis Martin, Gérard, and others, have been preserved to occupy a place in the Salle des Fêtes, the Salle des Mariages, and the Salle du Conseil Municipal of the new building.

The competition for the present building appears to have taken place in 1897, and M. Le Grand, of Paris, was selected as architect to the building, which has been carried to completion under his direction. To M. Le Grand's kindness are due the excellent drawings



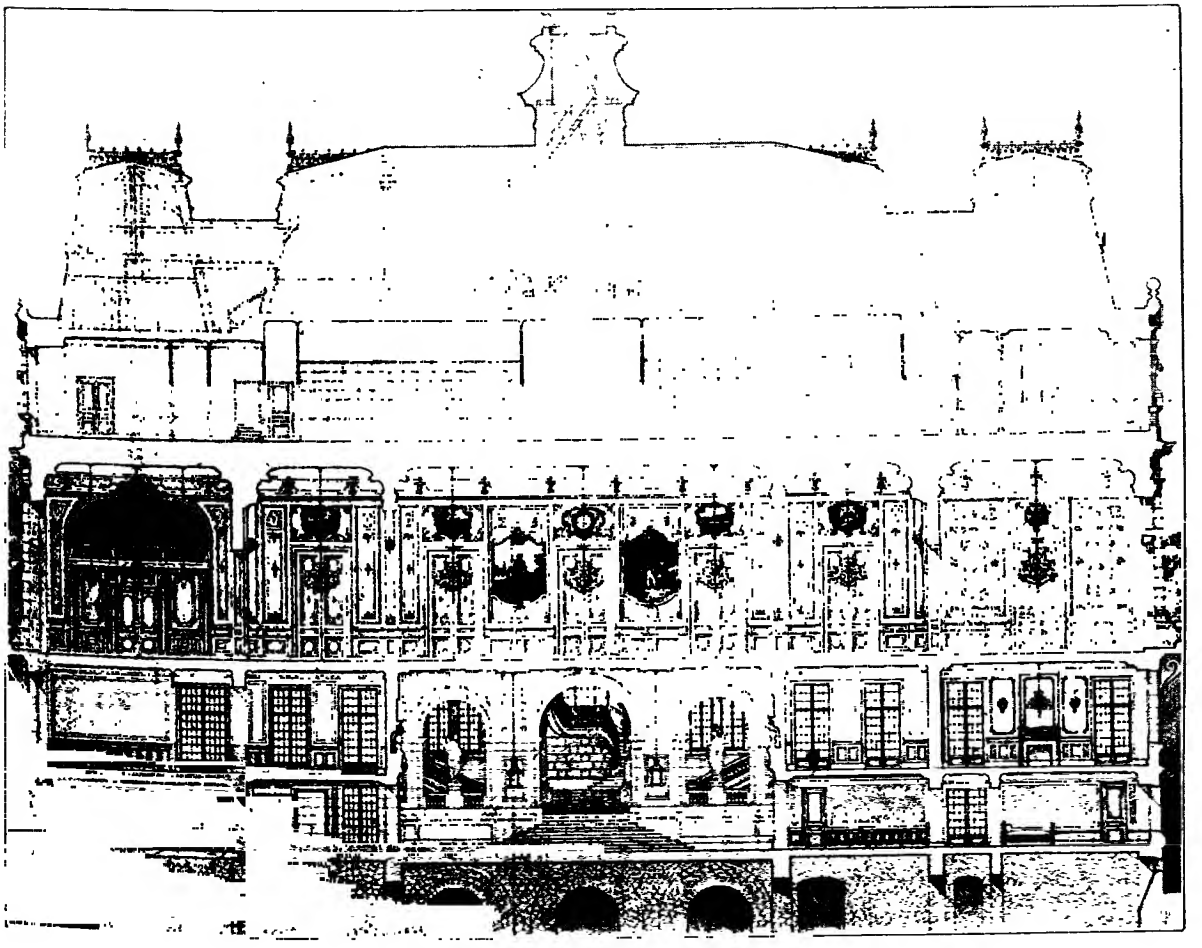
THE HÔTEL DE VILLE, VERSAILLES: SECTION AT RIGHT ANGLES TO PRINCIPAL FAÇADE.

here reproduced and particulars as to the construction of the building. The work was commenced in 1900. The cost of the building, which covers an area of about 2,000 square metres, amounted to 1,800,000 francs.

As will be seen from the general view, the site is a very open one, and the building so placed as to be seen to advantage. The great boulevard on to which it fronts leads up to the entrance to Louis XIV.'s palace, not far away—a fine view of the latter being obtained from the flèche of the Hotel de Ville.

In general plan the building forms three sides of a square, with a garden (37 metres by 22·60 metres) occupying the fourth and centre. The principal entrance vestibule and staircase, together with the Salles des Fêtes, des Mariages, du Conseil Municipal, &c., occur in the main central block of the building, which forms the most important façade. The staircase is circular in plan, and projects into the central garden.

In the right wing, on the ground and mezzanine floors, are the apartments of the Mayor and his "adjoints," the offices of the Secrétaire-Général, the municipal bank and rates office,



THE HÔTEL DE VILLE, VERSAILLES: SECTION PARALLEL TO PRINCIPAL FAÇADE.

the Justices' Court and Police Department (with special entrance), various service staircases, &c.; while above, on the first floor, are the offices of various officials, reception kitchens, cloak-rooms, &c., for use in connection with the municipal banquets and fêtes. The right wing of the building is what remains of the reconstructed Hotel de Conti.

On the lower floors of the left wing are the Conference Hall (the upper portion of which appears on the first-floor plan) and various smaller meeting and committee rooms, entrances to the same and public staircase. On the first floor are the apartments of the Municipal Council, including the Council Chamber itself, ante-room, two committee rooms,

cloak-room, lavatories, &c. These, connecting with the reception apartments adjoining, form a magnificent suite of rooms.

On the second floor of the main building are the "Archives" stores, a store for the records of the Police Department, and the private apartments of the Secrétaire-Général and the "Archiviste."

The general arrangement of the principal and mezzanine floors is explained by the accompanying sections through the buildings. Some of the more important heights are as follows:—

Basement to ground floor .	= 4 metres.
Ground floor to first ,, .	= 8·70 metres (with intermediate floor).
First floor to second ,, .	= 9·60 metres.
Second-floor story . .	= 5·60 metres.
External main cornice .	= 20 metres above road (about).
Top of principal Mansard roof	= 32 ,, ,, ,, ,,
Top of flèche . . .	= 50 ,, ,, ,, ,,

N.B.—One metre equals 3·281 English feet.

The walls of the basement are constructed in "meulière" (a sort of coarse grit stone, in appearance much like concrete) in "Corneille" lime mortar. In the main building the basement ceilings are arched in this material, but in the left wing they are of iron joist construction filled in with brick. The external walls generally are of Meuse stone faced in a freestone from Mesnil-le-Roi, which is of a rich yellow colour. The right wing, which is the portion of the old building preserved, was built throughout in "meulière," the external facing being formed by rendering in cement mortar and colouring and lining to imitate stone and brick—a questionable practice, which has, however, been followed in the new left wing also and the back façade of the main building. Probably considerations of cost are responsible for this, as it is unlikely to have been the architect's choice. The internal facing, too, of the entrance vestibule, with its barrel ceiling, and the hall and staircase, with its dome, is of stucco plaster, lined to represent jointing, and having much the texture and appearance of stonework.

The roofs and turrets are entirely of wood construction, put together with straps and bolts. The chimney-flues are taken up through the internal spaces of roofs in detached positions, and varying inclinations, in the form of square piers formed with plaster sides and continuous angle irons (about 2 inches by 2 inches) at the four corners, tied together by cross-pieces at intervals. The upper slopes of the Mansard roofs and the turrets are zinc-covered; the sides of the roofs and the dome over the circular staircase are finished with small-size slates.

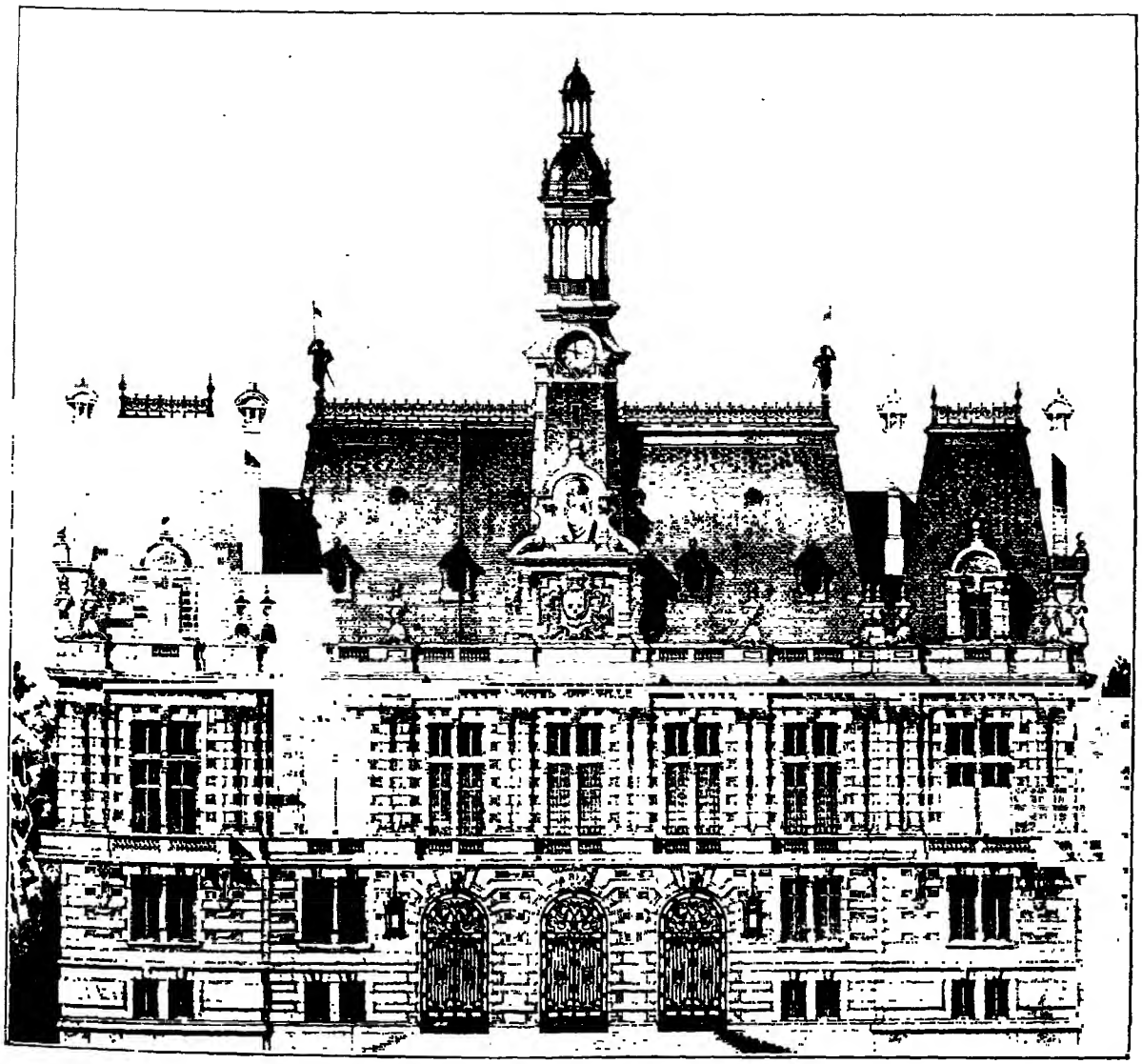
The treads of the principal staircase are of stone, with risers of plain iron painted white, riveted no doubt to an iron outer string, which in its turn is encased in "artificial stone" plaster. The floors of the landings are finished with stone, and the staircase and hall throughout have the appearance of being of that material.

The warming of the building is done by low-pressure steam from heaters in the basement, one warming the general administrative offices in daily use, and the other the ceremonial and reception rooms, council chamber, &c., when these are required. The latter receive warmed air through gratings in the floors or skirtings, conducted in trunks from the basement. The offices are supplied with independent radiators, which admit of regulation in each room as required. The total cost of the heating installation was 48,000 francs.

Ventilation is effected in the principal rooms through apertures concealed in the coved cornices. The upper sashes of the windows are arranged to open mechanically to any degree required.

Artificial lighting is by electricity.

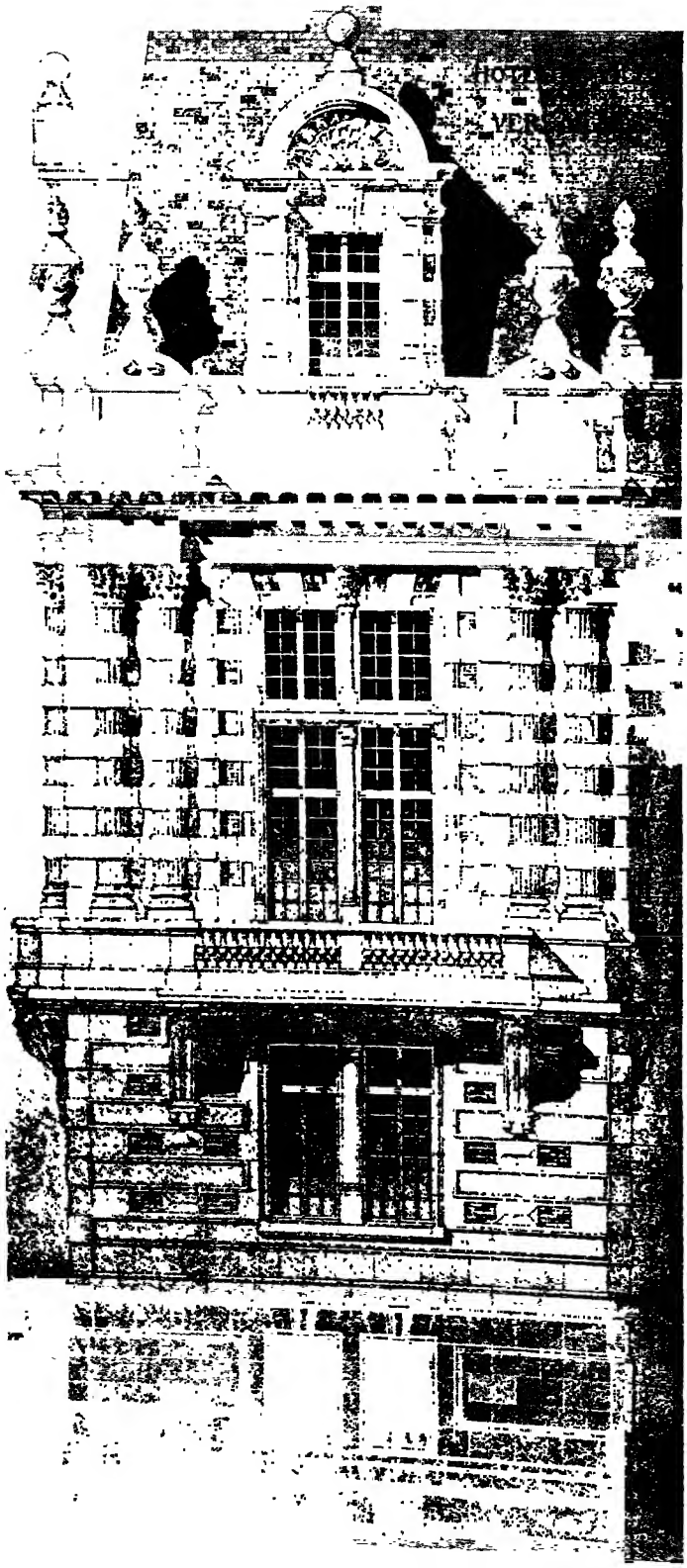
The external treatment of the building was to a large extent governed by that of the old building, now forming the right wing, and will be explained by a reference to the elevations and details given. The artificial character of some of the facings has been already referred to. The main façade is 50·10 metres long, and its side returns 56·45 metres.



THE HOTEL DE VILLE, VERSAILLES: PRINCIPAL FAÇADE.

The principal entrance vestibule is 16·50 metres by 8·20 metres by 8·20 metres (a double cube), and the artificial stone of the walls and ceiling is left uncoloured. The floor is of smooth stone slabs.

The planning of the staircase is interesting and picturesque. It forms a circle of 9 metres internal diameter, terminating in a dome 14·50 metres above its floor. The stairs



THE HOTEL DE VILLE VERSAILLES—DETAIL OF PORTION OF FRONT.

themselves are 2·60 metres in width. The balustrade and hand-rail are of iron, gilded in parts. Windows overlook the garden square. The domed ceiling springs from a modillioned cornice with a simple treatment of flat ribs, panels, and boldly modelled swags.

The Galerie des Fetes, reached at the top of the staircase, is 30·20 metres long by 4·55 metres in width. The walls are treated in artificial stone as before, pilastered, moulded, and enriched. Polished grey marble panels, containing the names of mayors and "adjoints" of Versailles since the year 1790, are inserted in the walls. These walls, together with those of the staircase and the ante-hall, are uncoloured. The ceiling is of plaster, with moulded coves round the sides, the floor of coloured mosaic.

The internal decorative treatment of the Salles des Fetes and des Mariages, the Salle du Conseil Municipal, and their ante-rooms, is a feature of special interest in this building, having been determined by that of the ancient Hotel de Conti, and notably by the elegant carved wood panelling with delicate modelled enrichments in the style of Louis XV., re-used in the Salle des Mariages. The panels in some cases contain excellent paintings already referred to in the introductory notes. Other panels contain mirrors. Except for these, the woodwork and ceilings in the Salles des Fètes and des Mariages are painted in white only.

The Salle des Fêtes is 30·20 metres by 8·50 metres by 8·50 metres, or 99 feet by 28 feet by 28 feet. The ceiling at present is plain white with bracketed coves, the floor of polished oak parquetry. The fireplaces at the ends of the room are of polished white and grey marble. Lustre electroliers are suspended from the ceiling.

THE HÔTEL DE VILLE, VERSAILLES : RECEPTION GALLERY, FIRST FLOOR.

X

The Salle des Mariages is 13·50 metres by 8·75 metres by 8·50 metres. The daïs and furniture are of oak upholstered in red velvet. In the adjoining ante-room the wall panellings are treated in white and pale blue.

The Municipal Council Chamber is of similar size to the last, but the wall linings, though treated in the style already described, are of oak, with furniture of the same wood. The ceiling is flat, with coved sides as before. The Councillors sit round a table of horse-shoe plan, and the Mayor, three "adjoints," and a secretary occupy the platform—thirty-three in all. One corner of the room contains seating reserved for the Press, while the public find accommodation in a gallery opposite the Mayor. The effect of this room is most pleasing.

The panelling of the adjoining Salle d'Attente is again white, with more excellent paintings. The furniture is of mahogany upholstered in red velvet.

In the Conference Hall (12·89 metres by 11·54 metres) the seating and platform are of oak very plainly treated. The rows of seating rise by the height of two steps each from the front to the back of the room. The ceiling is flat.

Both in proportion and detail the ceremonial and reception apartments form an elegant representation of a notable phase of decorative art in France.

The remaining apartments do not appear to contain any features calling for special comment here.

THE HOTEL DE VILLE VERSAILLES: THE SALLE DES FÊTES.

(To be continued.)

9, Conduit Street, London, W., 12*th Jan.* 1907.

CHRONICLE.

French Architects and the Institute.

A gratifying souvenir of the last International Congress of Architects has been received by the Institute from the Central Society of French Architects. It consists of a Gold Medal bearing on the obverse the badge of the Society, and on the reverse the inscription "Société Centrale des Architectes Français.—À Institut Royal des Architectes Britanniques.—VIIe Congrès International, 16-21 Juillet 1906." The gift was accompanied by the following letter from the President of the Society, M. Nénot, Membre de l'Institut de France [*Hon.Corr.M.*] :—

Paris : le 10 *décembre* 1906.

Monsieur le Président et très honoré Confrère,—

Le bureau de la Société centrale des architectes français, désireux d'offrir à l'Institut royal des architectes britanniques un souvenir confraternel à l'occasion du VIIe Congrès des architectes, tenu à Londres l'été dernier, avait décidé, dès la rentrée, qu'un jeton d'or serait offert à l'Institut.

Mais le bureau a pensé que la Société centrale tout entière devait être appelée à sanctionner sa décision, et à donner à celle-ci toute l'ampleur d'un vote en assemblée générale.

Ce vote a eu lieu lors de la séance statutaire du 2 décembre.

A l'unanimité, l'assemblée a adopté la proposition suivante :

"L'Institut royal des architectes britanniques sera prié d'accepter, au nom de la Société centrale des architectes français, un jeton d'or en témoignage de ses vifs remerciements pour les soins apportés à l'organisation si parfaite du Congrès de Londres, et de gratitude pour la magnificence des réceptions faites aux congressistes et aussi pour toutes les aimables et délicates attentions dont ils ont été comblés."

Nous sommes heureux d'avoir présentement à exécuter la décision de l'assemblée, et nous avons l'honneur de vous adresser la médaille votée par la Société.

Nous aimons à espérer que l'Institut royal voudra bien voir, dans cette cordiale manifestation, tout le désir de la Société centrale de contribuer à l'extension et à l'affirmation, de plus en plus grandes, des sentiments de vive sympathie, de profonde estime et de sincère confraternité qui ont toujours animé la corporation des architectes anglais et la corporation des architectes français.

Veuillez agréer, Monsieur le président et très honoré confrère, l'assurance de notre considération la plus distinguée et de notre affectueux dévouement confraternel.

Le Président de la Société centrale, membre de l'Institut,
H.-P. Nénot.

Le Secrétaire principal,
Gustave Olive.

The medal and letter had been forwarded to the Institute by Mr. John Belcher, A.R.A., President of the Congress, to whom they had been addressed under the impression that he was still President of the Institute. At the General Meeting last Monday the Medal was formally accepted for the Institute by the President, and the contents of the letter having been communicated by the Secretary in English, Mr. Collcutt referred to the very gratifying and courteous terms in which the Medal had been offered. A resolution expressing appreciation of and thanks for the gift was carried by acclamation, and by the President's instruction the following letter tendering the thanks of the Institute has been addressed to the President of the French Society :—

Londres : le 9 *janvier* 1907.

Monsieur le Président de la Société Centrale des Architectes Français.

Monsieur le Président et très honoré Confrère,—

Nous avons l'honneur de vous faire part d'un vœu de sincère reconnaissance émis à l'unanimité par l'Assemblée générale de l'Institut royal des architectes britanniques, à la séance du 7 janvier, à l'occasion du présentation du jeton d'or offert par la Société centrale des architectes français en commémoration du Septième Congrès International des Architectes.

La lecture de votre lettre, inspirée du sentiment d'une amitié si profonde, a été reçue d'applaudissements, et c'est notre privilège d'être les interprètes des vifs remerciements et de l'appréciation plus que cordiale de notre Institut royal. Nous garderons toujours le souvenir de cet acte si gracieux, symbole de la parfaite sympathie et de l'esprit de belle confraternité qui existent entre nos deux corporations.

Veuillez agréer, Monsieur le Président et très honoré confrère, l'assurance de nos sentiments les plus dévoués et confraternels.

Le Président,
Thomas E. Collcutt.

Le Secrétaire,
W. J. Locke.

Le Secrétaire Honoraire,
Alexander Graham.

THE BUSINESS MEETING.

Motion *re* Official Architects: a Point of Order.

Mr. HERBERT W. WILLS [*A.*] had given notice, in accordance with the By-law, of his intention to move the following resolution at the Business Meeting of the 7th inst., viz.:—

> "That the Royal Institute of British Architects considers that the employment of public officials in other than advisory capacity is in principle likely to be detrimental to the interests of architecture, since it creates monopolies extending over long periods of time, and likely to do away with that spirit of honourable emulation which must always be a most valuable factor in the production of the best architectural work."

THE PRESIDENT, at the Meeting, having called upon Mr. Wills to bring up his motion, Mr. J. C. STRANSOM [*A.*] rose upon a point of order, and, having obtained the President's permission to speak, went on to point out that the subject of Mr. Wills's resolution had been very fully discussed on the 3rd December, and that an amendment to Mr. Wills's resolution on that occasion had been carried by a large majority. Mr. Stransom submitted that it was contrary to all precedent to bring up the question again so soon, and that such proceeding was quite out of order. The wording of the proposed resolution had been slightly altered, but it would be seen that the last three lines consisted merely of arguments that had been adduced by Mr. Wills in bringing forward his motion on the 3rd December. If what Mr. Wills proposed to do was in order, it would be in order at any future meetings of the Institute to bring up the same question again and again.

Mr. OWEN FLEMING [*A.*] said that he took the same view as Mr. Stransom. He had looked in the By-laws for some regulation governing such a contingency as they were now met with, but there was nothing whatever in the By-laws bearing upon the point. He then thought that the matter might properly be dealt with in the same way as the House of Commons dealt with such questions, and a friend of his—one of the House of Commons clerks—had been good enough to give him the Rules and Orders and Forms of Procedure of Public Business, and the rule of the House of Commons was as follows: "That no question or amendment may be proposed which is the same in substance as a question which during the same Session has been resolved in the affirmative or the negative." It was true that the House of Commons did permit, under certain conditions, a direct rescission of a resolution, but they did not during the same Session permit the same question to be raised in a slightly different form. That was the point he wished to submit to the Chairman's consideration.

THE PRESIDENT said that the question whether or not Mr. Wills was in order was one that he was not at the moment quite prepared to answer. He thought, however, that the subject had been very thoroughly considered at the last meeting. He was not present himself at that meeting, but he had read the report, and the discussion seemed to him to have traversed the whole question from beginning to end. Moreover, the Institute, only two years ago, had addressed a memorial to the municipal bodies throughout the Kingdom calling their attention to the great harm that was being done by allowing so many of their public works to be carried out by officials in their employ. Again, in the Report of the Registration Committee and in the Appendix to the Report this subject was particularly mentioned. The Report recommended that Parliament should be petitioned to enact "That municipal and other public bodies shall, on the erection or alteration of buildings in cities or towns, employ a professional member of the R.I.B.A." A committee was now dealing with the revision of the Charter, and this subject would come up before them. It seemed to him that they were only wasting time in discussing what had already been very thoroughly discussed, especially as the matter was at the present moment engaging the attention of the committee he had referred to. He thought it rested with the Meeting whether Mr. Wills should be allowed to bring the matter forward again.

Mr. W. E. RILEY [*F.*]: I formally propose, Sir, that we proceed to the next business.

Mr. R. J. ANGEL [*A.*]: I second that, Sir.

Mr. WILLS said it was perfectly true that the subject had been discussed at the last Business Meeting, but the discussion had been all condensed into a period of a little over an hour, and he had had no opportunity of replying. He had a good deal to say which had he been able to reply might have altered the decision of the Meeting. It was the usual custom at public meetings to give the proposer of a resolution time to reply. He had had no opportunity of replying, and it was on that account that he wished to bring the subject up again. If the Meeting, however, did not want him to move this resolution, he would suggest that they should signify their wish by show of hands, and he would of course bow to their decision.

THE PRESIDENT: Then I will put Mr. Riley's motion, which has been duly seconded, that we proceed to the next business

On a show of hands the motion was declared carried.

Mr. OWEN FLEMING: I take it, Sir, that the subject now being considered by the Council will be governed by the resolution which was passed at the last meeting.

THE PRESIDENT: No doubt they will take that into consideration.

The London County Hall Competition.

Following the proceedings above reported, Mr. WILLIAM WOODWARD [*F.*] was called upon by the President to bring up the subject of which he had given notice—viz. "To direct the attention of the R.I.B.A. to the terms of the competition for the new London County Hall, with especial reference to the proposal to invite certain architects to submit designs in the final stage of the competition."

Mr. WOODWARD, in introducing the subject, said he hoped it was hardly necessary for him to assure the Meeting that he had no personal motive whatever in what he was about to say. He did not propose to take part in the competition, and he only spoke as a member of the Royal Institute of British Architects. The Liverpool Cathedral competition had been the most important ecclesiastical competition of the present generation, and the proposed County Hall competition would no doubt be the most important municipal competition of the generation; and as he intended to narrow his subject down very much indeed, he should only trouble them with a few preliminary remarks to lead up to the resolution he was going to ask them to pass. They were aware that the Establishment Committee of the London County Council had recommended certain conditions for the competition. These recommendations appeared pretty fully in *The Builder* of the 22nd December, and it might be assumed that those were practically the conditions which would be issued by the London County Council.

Mr. H. H. Statham [*F.*]: Those recommendations are on the agenda of the London County Council, but they have not been passed by the main body; they are simply what are proposed by the Committee.

Mr. Woodward said he thought they might consider the conditions proposed sufficiently official to warrant a discussion upon them at the meeting that evening. Continuing, he said they knew that the London County Council had invited foreigners to compete for this building. He was not going to quarrel with that. It would probably be very awkward indeed if a German or a Frenchman should be selected; but he sincerely trusted that, if the design of a Frenchman or a German was considered by the Assessors to be the best, he would be selected, however much they might disagree with the idea. In addition to that the Assessors were named in the proposed conditions—viz. Mr. Norman Shaw and Mr. Riley. He should have the Meeting in perfect agreement with him in saying that not one word could be uttered, except in complete satisfaction, at the employment of Mr. Norman Shaw as Assessor; and he should have the Meeting equally with him in saying that there was no man in the profession who was better able to stand at his side than Mr. Riley with reference to this competition. If there was one man who knew the requirements of the London County Council, and was able to bring them to bear and to assist Mr. Norman Shaw as regards the planning of this building, and also to give his opinions, and, to some extent, his guidance, as to the character of some of the architecture of that building, it was Mr. Riley. Therefore he did not propose to call that in question at all. It was the selection of the eight architects that he wished specially to direct the attention of the Institute to, and he did not propose to invite any discussion except on this particular point. With regard to the eight architects selected, he did not propose to call them into question at all, although everyone would agree that they were not all of them born designing county halls. The point he wished to draw attention to was this: Having selected the eight architects, why were those eight architects not to be required to send in their designs on the same day as the other competitors? These eight architects had doubtless been selected because of their almost superhuman ability to grasp the situation; and, that being so, the efforts of those eight architects would be as paramount, would stand out above the others, as much in May as they would in October! Therefore he could not conceive any reason whatever why those eight architects should not send in their designs at the same time as the others. He wished to cast no reflection whatever upon those eight architects. He believed that they would not lend themselves to the suggestion, which had not been made, but which might be made, that in the interval which elapsed between July and October there might have travelled to them by some process, with which they at the moment were unacquainted, some small ideas which had pervaded some of the best designs of those who sent in in the first competition. There was just a suspicion that this might be urged against them when one of those eight architects was selected; and, of course, there was no question whatever that one of those eight architects must be selected, because of the characteristics he had referred to in an earlier part of his remarks! That being so, he wished to address the eight architects simply on the question of *esprit de corps*, and nothing else. He felt perfectly certain that if one of those eight architects was selected to carry out the design, and he sent it in in October instead of July, that architect, whoever he might be, would consider—not on account of the aspersions, but on account of the criticisms which would be passed on the fact of his selection—that a large part of the credit attaching to him and a large part of the satisfaction which he would feel as the architect of such a great building was taken from him for that particular reason, and that particular reason only. He would therefore, without further ado, hand in his resolution, which was as follows: "That this Meeting is of opinion that, in order to prevent the possibility of future discontent, all drawings for the competition for the London County Hall, including the designs of the eight selected architects, be sent in on one and the same day. The Meeting also decides that a copy of this Resolution be forwarded by the Secretary of this Institute to each of the architects who are members of this Institute, and that a similar copy be also forwarded to the London County Council." He had nothing further to add to what he had said. He appealed to those eight architects—to seven of them at any rate, because seven were members of the Institute, and one was not—to do that which he was perfectly certain they would do, following out the desire that there should be no suspicion cast upon their conduct hereafter, and following out the desire to have this competition conducted in a manner which should not be open to the slightest word of complaint. He was certain that those eight architects, feeling that their position was not in the slightest degree jeopardised by taking the view set forth in that Resolution, would do it with honour to themselves and credit to the Royal Institute of British Architects; and he therefore moved the Resolution he had just handed in and read.

Mr. Horace T. Bonner [*A.*] said he had great pleasure in seconding the Resolution; but before a vote was taken, he should like to inquire how it was that those names were selected.

The President: Mr. Woodward distinctly stated that he did not raise that question at all.

Mr. Woodward: That is so.

The President: Therefore I think it cannot be raised when you second the motion.

Mr. Bonner: Then I have great pleasure in seconding the motion without anything further.

The President: I should like to ask Mr. Woodward what he means by "in order to prevent the possibility of future discontent"? Is it necessary to put that into the Resolution?

Mr. Woodward: I will eliminate those words with pleasure, Sir.

The President: Another point is that the competition is to be in two stages: one stage of sketch drawings, and a further stage of more completed drawings; and it is in the second stage that the eight architects are to take part. In what way could you have two competitions? Do you propose that the eight selected architects shall send in sketch drawings?

Mr. Woodward: I propose that they shall send in their sketch designs at the same time as the others send in theirs.

Mr. Middleton: There will be no further sketch drawings in the second competition. I have read these conditions very carefully. The same drawings will go in a second time with a few additional drawings only in the form of details; and it is also expressly stated, I believe, that for the general competitors there will be no extension of time whatever, so that the giving of an additional four months to these eight architects is not only giving them £200 extra, but giving them an additional four months to consider their original sketch schemes.

Mr. Bonner: That important competition for the City Hall of Westminster was an open competition, and out of a number of first competitors a limited number was selected. There cannot be the slightest difficulty in doing the same thing in this case.

The President: That is not quite on all-fours with the present proposals. There were to be architects invited to take part in the second competition—which never took place, I believe.

Mr. Woodward: Everybody is aware that this is a most unusual course. I invite anybody to quote a precedent.

Mr. C. H. Brodie [F.]: Would it not clear the air if we asked a plain question: What steps are proposed to be taken to prevent anybody seeing the sketch designs which are sent in for the first competition, and preventing those people making use of knowledge thus acquired in the second competition?

Mr. E. J. Dixon [A.] wished to draw attention to the fact that the drawings to be sent in by the eight selected architects must be elaborated very considerably, and that in the second competition the competitors would have their drawings returned, and could redraw them entirely as well as submit extra drawings; so that the eight architects who competed would have double the amount of time to do practically half the amount of work. That was grossly unfair, and he should have great pleasure in supporting the Resolution.

Mr. Edwin T. Hall [F.] said that the subject Mr. Woodward had brought forward was no doubt a very important one, but it would be in the interest of the Institute to remember the history of this question. In the first place there was no decision of the County Council to have a competition at all. He thought he was right in saying that the idea emanated entirely from the Council of the Institute. They had had a considerable correspondence with the London County Council, and in the end the County Council had asked the Institute Council if they would suggest a course that should be adopted in respect of this very important building, which was to be, as they all hoped, one of the finest monuments in London; and the Institute Council did submit in considerable detail this scheme to the London County Council, and, with very minor alterations, it was fair to say that the County Council scheme as it was now before them was that which was suggested by the Council of the Institute. He did not know whether that correspondence had been published, but the fact that there had been communications had been reported to the General Body. The Institute Council, as a fact, had submitted a scheme, and they submitted a scheme of a double competition. That was not a new provision at all. One of the largest competitions they had had of late years had been that of the Birmingham new municipal buildings. That was a double competition. It might have been said that the gentlemen who were selected to join in the second competition in Birmingham had had an opportunity of seeing all the designs of those who were rejected in the first competition. If it was possible that the gentlemen joining the second competition were capable of borrowing the brains of others, they would have been just as likely to do it in that case as they would in the case of all second competitions. He was speaking perfectly disinterestedly. He was not one of the selected eight. He was endeavouring to show that this was a double competition on the lines suggested by the Council of the Institute. There was no nomination from the Council of any one of the eight members. That selection was made entirely without the knowledge of the Institute Council, who only knew of it from the public Press. He thought himself that the benefit of this discussion would be this. He ventured to think that the time given for the first competition was far too limited: that it was perfectly impossible for any man adequately to comprehend, to digest, and produce a good design in the time which might be at his disposal to get in the designs in May. He was at liberty to say that the Council had that day written a letter to the London County Council asking them to be pleased, if they would, to extend the time within which the first competition designs should be sent in. The aim of the London County Council was to get the best building they could, and the aim of every architect who went in for it would be to devote the whole of his thought to giving them the best building he could possibly get from his brain; and it was in the interests of the County Council, and of the competitors also, that they should have reasonable and adequate time to give the County Council that which they desired, namely, the best design that could be obtained. That, he thought, the wiser course to adopt rather than, if he might venture to suggest it to Mr. Woodward, to overturn a scheme which they had in the interests of all architects got the County Council to adopt on lines suggested by the Institute Council after the greatest thought and care. It was reasonable that they should ask for extended time, and he felt sure they would have the County Council's sympathetic consideration and that of Mr. Riley, for whom he had the greatest possible respect, and whose name he was delighted to see associated as one of the Assessors. If that were done he thought they would have a good competition, and he did not think that those who went in for the first competition need fear the possibility of filtration to those selected for the second. He had not the least doubt that there was every desire that there should be a most upright competition in the matter, and Mr. Riley would take some official administrative steps to prevent the leaking-out of the designs of the first competition. It was a mere matter of organisation, a mere matter which honourable men would give their best attention to. But if they could get for the first competitors that extension of time, then he thought the second competition would take care of itself; and, if that Meeting would express their appreciation of the letter which the Council had sent to the County Council, in order that it might be seen that it was generally desired by the profession, he felt sure it would have additional weight added to it, and then they could look forward to a fair competition conducted on proper lines; and it would not be necessary then to carry the motion Mr. Woodward had suggested.

Mr. Woodward having stated that until then he had been in entire ignorance that any correspondence on the matter had taken place between the Institute and the County Council,—

Mr. Herbert Shepherd [A.] called attention to and read the following paragraph in last year's Annual Report [Journal, 12th May, p. 349]:—"The Council, feeling it to be a matter of vital importance that the County Hall which the London County Council propose to erect on the south side of the Thames, at a cost of £1,000,000, should be a building worthy of the greatest city in the world, addressed, last July, a letter to the London County Council, in which they offered the assistance of the Institute in their efforts to secure a design for such a building. The Establishment Committee of the London County Council having intimated their desire to receive the suggestions of the Institute, the Council, after obtaining the report of a special committee on the subject, have advised them to institute a combined open and invited competition, to be judged by a jury of Assessors."

At the request of the President, the Secretary read the letter which was addressed by the Council of the Institute to the London County Council in April last. The letter was as follows:—

3rd April 1906.

"Sir,—We are directed by the Council of the Royal Institute of British Architects to inform you that they have given the most careful consideration to your letter of 22nd February, and fully appreciate the desire of the London County Council to obtain a building that will be worthy of its important purpose, and will take its place with the other great public buildings of London.

"Our Council consider that the only way of securing a really broadly treated and fine work, such as the London County Council naturally desire, is to obtain, by some means or other, a strongly individualised personality to deal with the problem under properly defined conditions.

Our Council suggest that the method most likely to achieve this result is to institute a competition.

In support of this view we would draw the attention of the London County Council to the following buildings the designs for which were all so selected :—

England: The Houses of Parliament.
The Foreign Office.
France: The Hôtel de Ville, Paris.
The Opera House, Paris.
The Palaces of Art, Paris.
Germany: The Houses of Parliament, Berlin.
America: The Central Library, New York.

"The architectural quality of these works amply vindicates the method by which such designs were obtained.

"In the case of some of these buildings there was a preliminary and final competition, a system frequently employed in recent years for important works, like the University of California. Our Council are of opinion that this is the one best suited to the requirements of the London County Council.

"We are further to suggest that, with the view to securing that some of the leading architects shall take part in the competition, six should be invited to compete in the final stage. We may add that this principle has been adopted in the case of the design for the Palace of Peace at the Hague.

"Our Council are most strongly of the opinion that it will be to the advantage of the London County Council to work on the lines suggested herein, as they have every reason to assure you that a work of this importance will be regarded with enthusiasm by the whole profession.

"If, as we hope, our Council's suggestions commend themselves to the London County Council, we venture to append the heads of a scheme for giving effect to the principle.—We have the honour to be, Sir,

Your obedient Servants,
ALEXANDER GRAHAM, *Hon. Secretary.*
W. J. LOCKE, *Secretary.*

The Clerk, London County Council.

[*Appendix.*]

"PROPOSED LONDON COUNTY HALL.

HEADS OF SCHEME FOR COMPETITION.

"1. That a competition should be organised on instructions from the County Council and carried out under the advice and direction of a jury of three Assessors.

"2. That the competition be divided into two stages, (*a*) the Preliminary; (*b*) the Final.

"(*a*) The preliminary to be open to all architects, who shall submit sketch plans of each floor, showing the accommodation to be provided, sketch elevations of two principal fronts and one section, and all to be drawn to a scale of thirty-two feet to the inch. In this competition the ten best designs shall be selected in private by the Assessors, and each shall be sent back at once to its author.

"(*b*) The final, open to (1) the authors of the said ten selected designs, each author to receive an honorarium of £105, and (2) six of the leading architects, to be invited by the London County Council before the preliminary competition, each of whom shall also receive an honorarium of £105.

"In this final competition the drawings to the same scale shall consist at least of plans of all floors, four elevations, two sections, and one sheet of details to a scale of ¼-inch to the foot. After the award of the Assessors these designs shall be publicly exhibited.

"3. The jury of Assessors shall consist of the following:

i. One to be appointed by the competitors in the preliminary competition. For this purpose each intending competitor shall be asked to name one architect whom he nominates as Assessor, and the architect (not a competitor) who receives the largest number of nominations shall be appointed.

ii. The Superintending Architect of the London County Council.

iii. An architect appointed by the President of the Royal Institute of British Architects.

"4 The decision of the Assessors shall be that of the majority.

"5. The architect whose design is selected as best by the Assessors in the final competition shall be appointed as Architect for the new building, unless there shall be in the opinion of the Assessors any grave reason to the contrary.

"Further detail would of course be elaborated in the particulars, conditions, and instructions to be issued to competitors, and in the preparation of these the London County Council would have the advice and assistance of the Assessors."

Mr. EDWIN T. HALL asked permission to say that the President of the Institute did not nominate the third Assessor Architect. One was nominated by the County Council and one by the Council of the Institute. The President had had nothing whatever to do with it. After hearing the above documents read he suggested to members that the Council, in the interests, he was sure they would agree, of all the architects of England, had laid a scheme before the County Council which they had most generously entertained, and with very slight variations adopted; and he thought it would be unwise that they should approach them now and ask them to revise those conditions. It must not be forgotten that, though they might criticise an individual point here or there, the original intention was not to have any competition. But a competition had been secured by the favourable consideration the County Council had given to the representations of the Institute's representatives; and that being so he thought it would be unwise to ask them to traverse it. It was, however, very important that they should get an extension of time for sending in designs for the first competition.

Mr. H. H. STATHAM [*F.*] asked for an explanation of Mr. Hall's remark that this was done in the interests of all the architects of England. From what the Secretary had read, it appeared that the proposal to throw this competition open to the architects of the whole world emanated from the Council.

Mr. E. T. HALL: The Council's suggestion was that it should be open to "all architects," but I can honestly say that the Council never thought of going beyond England.

THE PRESIDENT: It was never in the mind of the Council that it was to be open to the whole world.

Mr. WOODWARD: May I say in reply to Mr. Hall that I had no intention of casting any reproach on the County Council? I simply appeal to the selected architects on the ground of *esprit de corps* to do what I should do myself—viz. to send in their designs at the same time as the general body of competitors.

THE PRESIDENT: Then will you leave it like that—that it is an appeal made from this meeting to these selected architects?

Mr. WOODWARD: No, Sir; I shall in any case ask you to put my resolution.

Mr. L. JACOB [*A.*]: Mr. Woodward mentioned *esprit de corps*. I think the best way to put it in practice is for this meeting to-night to back up the action of the Council.

Mr. MAURICE B. ADAMS [*F.*] said he thought it would enable the Meeting to judge whether they should take action or leave the matter alone, if the Secretary would read the paragraph in the letter in which, as he understood it, the Institute Council deliberately advised that the six selected architects should not take any part in the preliminary competition. If the Council had advised that, it was folly for the Meeting to take any action in the matter. It certainly seemed rather a curious course to advise. He had never heard of any such competition

before. The Hague competition was mentioned: a most unfortunate allusion considering the lamentable result of that contest.

THE PRESIDENT: If by the Hague competition is meant the Peace building, there were not two competitions for that building.

Mr. MAURICE ADAMS: It was stated so in the letter read by the Secretary.

THE PRESIDENT: Then it was a mistake.

THE SECRETARY: That statement unhappily was in the letter; it was a mistake.

Mr. MAURICE ADAMS, continuing, said he felt sure that none of the eight gentlemen who had been invited would wish to have any undue advantage; that was not suggested at all, and no one thought it for a moment; but it would be more fair and square if they all started on the same lines and sent in their designs at the same time. It was no use being mealy-mouthed about it—that would be the most satisfactory way—and he could not conceive what good would be gained by its not being so. Every other competition of the kind had been on those lines, and some of the results had been most satisfactory. Why there should be any departure now, and why there should be this anxiety to bolster it up, he did not know, unless the Council, without intending it, did suggest this thing to the County Council, and that was why he asked that this particular paragraph should be read, because to his mind it seemed definitely to propose that those selected gentlemen should only take part in the second competition.

THE SECRETARY read the paragraph in the letter above-printed beginning "We are further to suggest."

Mr. EDWIN T. HALL: I hope, Sir, I may be excused for saying another word. I hope Mr. Woodward does not think, as he said just now, that I am trying to draw a red herring across the path of his resolution.

Mr. WOODWARD: Well, I do.

Mr. E. T. HALL: But has this consideration been present to the mind of Mr. Woodward? Supposing his suggestion is carried out, we know that under the conditions only ten names are to be selected from the first competitors, and supposing that, of those ten, six are the selected men, that only means that four outsiders have any chance at all of getting into the second competition, while, as the matter stands, ten would go in. At present ten have a chance, and I think it is much better that they should have it.

THE PRESIDENT: It would be a matter of no concern to me if I had been one of the selected architects whether I sent in my design at once or whether I sent it in afterwards; and I really do not think there is very much in the suggestion that the eight selected architects are going to take advantage of the designs which have preceded theirs, as it were.

Mr. WOODWARD: I will eliminate those words, Sir.

THE PRESIDENT: Whether you eliminate those words or not, that is what it really means; and, seeing that this letter was addressed by our Council to the London County Council as far back as April of last year, I think it would be a great pity to reopen the question, because they have taken our advice in the matter, and we gave them the best advice it was in our power to give. We may have made a mistake in that small detail—for it is only a detail when you consider the big scheme that it is—but I think it would be very much better to leave the matter as it now stands. I should like to emphasise what Mr. Hall said with regard to an extension of time for the first designs. It was stated at the Council to-day that the designs were to be submitted some time in May. The conditions of the competition were not yet published, and it might be a week or a fortnight before they were published. I think everyone ought to have a clear six months in which to prepare his design, and I do not think we can put it before the London County Council too strongly that the whole competition becomes futile if a sufficient time is not given to prepare the designs.

Mr. G. A. T. MIDDLETON [*A.*]: May we have the letter read which the Council decided to-day to send to the County Council? Or may we hear what its purport is?

THE PRESIDENT: Its purport is that we consider the time that the County Council propose to allow for the competition very much too short, and we express our opinion that a clear six months should be given to every architect after he has had the conditions of the competition. That is the purport of our letter. I think if the Meeting would leave it at that, we should be doing very well.

Mr. W. D. CARÖE [*F.*]: May I suggest this point, Sir, that if the first competitors are given a very short time, as appears to be the case, and a fair amount of time appears to be given to the second competitors, there is a clear sort of suggestion that there is favouritism towards the eight selected men; and if the County Council make it absolute that the second and final competition must be in by a certain time, then I think the time ought to be taken off the second competition, and put on to the first. I think that that clears the ground, if the time is shortened for the second competition, from any possibility of favouritism to the eight selected men, or the possibility of their preparing their designs after having seen any of the first designs.

THE PRESIDENT: I do not altogether like the use of the word "favouritism" in this connection, because, after all, the matter will be in the hands of three Assessors. The names of two of the Assessors have been published, and we are perfectly certain—at least I feel perfectly certain—that no question of favouritism at all will come up in any direction. I think we ought now to leave the matter in the hands of the Assessors to conclude any further details that may be required in the matter.

Mr. MIDDLETON: After listening to this discussion, Sir, I should like to propose, if I am allowed to do so, an amendment to Mr. Woodward's motion, that we confirm and endorse the action taken by the Council this afternoon with regard to the extension of time.

Mr. E. T. HALL: I think it might be quite in the interests of architects that there should be a separate motion to that effect.

Mr. WOODWARD: This extension of time has nothing whatever to do with my motion. If there is a gentleman in the architectural profession whom I should desire to follow in any suggestion he made it is the present President of the Royal Institute of British Architects; but, Sir, I feel so strongly on this point that, whether my motion is carried or whether it is not, I desire, Sir, that you will kindly put it to the Meeting. If it does not meet the wishes of the Meeting I shall have done what I considered my duty only in the spirit of what I conceive to be fair play.

Mr. MAURICE ADAMS: Mr. Caröe appears to me to have pointed out one of the most reasonable and proper courses to adopt, and, if he would propose a short amendment, it would very likely be carried, because if, as he has suggested, the time allowed for the eight selected men and ten other competitors to amend their designs or to perfect them is curtailed, then of course the eight selected men must proceed with their designs beforehand, and by the time the ten competitors in the first competition have been chosen they will have committed themselves to a scheme which they probably would not wish to alter. I think if that were done Mr. Woodward's aim would be gained, and we should not be doing anything to stultify the Council, who have clearly advised the course which the County Council appear to have adopted. I should be very pleased to second an amendment of that kind, and I think it would be very satisfactory if the opinion of the Meeting were taken upon it.

Mr. W. H. Atkin Berry [*F.*]: I have listened to the remarks which have been made with a perfectly open mind, and I must say when I heard Mr. Woodward's remarks I thought there was a great deal of sound reasoning in principle; but since I have heard the further remarks and explanations made and the official letter from our Council to the London County Council, I cannot help thinking that we should take a very disastrous step if we did anything to upset the terms of that letter. Evidently the London County Council have considered very carefully the suggestions which emanated from this Institute, and they seem to have carried them out almost to the letter; and to go back upon that now would seem almost like a vote of censure upon the Council's letter.

Mr. Woodward: The Council would not mind that a bit.

Mr. Atkin Berry: I am not thinking of how the Council would take it, but I am thinking of how it would place us in the eyes of the world. Then there is another matter I think we may very fairly consider. We have before us the names of the eight architects who are to be selected to enter into the final competition, and there is not one of those gentlemen who is not held in the very highest estimation by every member of this Institute and by a very large number outside this Institute. We know them to be men of the highest honour, and I do not think for a moment that any one of us would believe that they would be guilty of taking advantage, even if they had the opportunity, of the circumstances which Mr. Woodward suggests; and I would beg Mr. Woodward to consider once more whether he thinks it well to press his motion.

Mr. H. T. Bonner: The last speaker has referred to the letter to the London County Council and to the interests of the Institute. But the general body of the members knew nothing whatever about this correspondence. It emanated from the Council, but the London County Council were not aware that it only emanated from the Council.

The President: I beg your pardon, Mr. Bonner. The London County Council were perfectly aware that the letter emanated from the Council of this Institute only.

Mr. Bonner: At any rate none of the ordinary members of the Institute knew anything at all about it.

The President: I was not present at the time this letter was written, but I was on the Council at the time, and I must point out that if matters of this kind had to come before a General Meeting and be there discussed, the interests of the Institute would suffer very considerably. The Council did what they thought right in the interests of the Institute. As I mentioned before, my own opinion is, with regard to the stages of these competitions, that perhaps it would have been advisable that the eight selected architects should have to send in their designs in the first instance; but seeing that we have written this letter, and seeing that the London County Council have taken our advice on this very important competition, I think we should be stultifying what we have done, and should be bringing the Council, and the Institute with the Council, in some degree into disrepute. It would not be fair to the Council and to the Institute to go back upon what we have written to the London County Council, and which has been received by the County Council. Therefore I make another appeal to Mr. Woodward.

Mr. Woodward: May I be permitted to make a suggestion, Sir? The desire on the part of the Council of this Institute is, to use now an old vestry term, not to stultify itself. I wish to make the suggestion that a letter be written by the Secretary of the Institute to the London County Council asking them whether, if the eight selected architects are willing, they (the County Council) would consent and be willing to let those eight architects send in their designs at the same time as the others. I am willing to put it in that way; and let us get the opinion of the London County Council, so that the London County Council shall not think we are casting any reproach upon them, or doing that which we should not do. If consent is given to that, I will not press my motion.

Mr. E. J. Dixon: I agree with Mr. Woodward, and will second this resolution.

Mr. Maurice Adams: I must say that I deprecate any resolution of the kind proposed by Mr. Woodward. It has been stated that the extension of time has nothing to do with the question; but it seems to me that, if we could only adopt some such resolution as Mr. Caröe pointed out, the necessity for any formal letter is avoided, and you would ensure the desired end. Having had that letter written by the Council, we are in all loyalty bound to support the Council in the matter.

Mr. Caröe: The amendment I propose is in these terms: "That the County Council be invited to extend the time allotted to the first competitors to a period of at least six months, whether the time for the final competition be extended or not."

Mr. E. T. Hall: I think it would be much better to put it definitely to the Meeting that it is suggested that the total period of the first and second competitions should be nine months, of which six should be given to the first competition.

Mr. Caröe: I accept that, Sir.

The President: Then I will put Mr. Caröe's proposition as an amendment to Mr. Woodward's resolution.

Mr. Middleton: Nine months is rather a difficulty, because the assessment is to take place after the preliminary competition, and the three months would not give time for the preparation of the remaining drawings.

The President: But the eight selected architects have nine months to do their work in.

Mr. E. T. Hall: They will commence to do it, I should think, the moment the conditions are issued.

After some further observations Mr. Caröe's amendment, having been seconded by Mr. Maurice B. Adams, was put to the Meeting and carried as follows: viz.—"That the County Council be invited to extend the time allotted to the two competitions to nine months, of which six shall be devoted to the first competition."

The amendment as carried was finally put as the substantive motion, and agreed to.

Limited Competitions for Public Buildings.

At the same meeting Mr. K. Gammell [*A.*], in accordance with notice, brought forward the following resolutions:—

"That in view of the fact that Limited Competitions for public buildings erected with public moneys are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that such Competitions should not be limited, and should take such steps as may be deemed advisable to discourage Public Bodies from instituting such Competitions."

"That this Institute exert its influence in obtaining the abolition of the growing custom of penalising non-competing architects by retaining their deposit."

Mr. Gammell having been called upon by the Chairman said:—May I be permitted to say, without desiring to give any offence whatever, that I have not come here this evening to make pleasant speeches? I have come here to fight against what I, rightly or wrongly, imagine to be an

injustice, but I hope to fight fairly and squarely. When I spoke in June last year I spoke from notes, and when I came to see the report of the discussion in the JOURNAL, I was so disappointed and so dissatisfied with the remarks which were attributed to me that I decided I would commit my remarks this evening to writing, and ask your permission and concurrence to my reading them. That will make in my estimation for three very desirable points: (1) The conservation of time; (2) Continuity and clearness; and (3) The removal of possible causes of discontent and misapprehension. With your permission I will read what I have here written:—

In opening my remarks this evening I am premising that every member present in this room is fully conversant with the purpose of the motions standing in my name. Upon the last occasion, it was courteously pointed out to the Meeting, by Mr. Slater, that there was good reason for believing that the contrary was the case. Recognising, in view of the reasons he advanced, the justice of his criticism, I, at the suggestion of the Chairman, withdrew the motions, in order to give members time to consider the matter. The report of the discussion has now been in the hands of the members for over six months, which, I think it will be admitted, is long enough to enable any member, anxious to combat my statements, to formulate his case. I want it to be clearly understood by every member present that I have, from the very beginning, set my face against any form of procedure that can be directly or indirectly attributed to a faction or sect. I have solicited no member's presence here to-night, but have left it to his individual judgment to attend, if such be thought desirable. On the last occasion, recognising that with another motion down for consideration, and Mr. Waterhouse's Paper for further discussion, time for explanation must be very limited, I entered this room with a scheme for putting my case, which I flattered myself was the last word on brevity. Well, I did my best, and the result was the production of an explanation which took on the character of a drawing combining plans, elevations, sections, details and perspectives on one single sheet. To-night, I propose to submit for your consideration what I would call the specification, that is to say, to add those points which the combination drawing did not, to my mind, sufficiently explain. First, I want to take that part of my statement, as reported in the JOURNAL, dealing with the contention that the public are not best served by limited competitions. When making this statement I merely mentioned, as an instance of this contention, the competition instituted by the Bedfordshire County Council for a secondary school at Luton. I should have added as follows: I do not think it would be desirable or in good taste to read the criticism of the plans which appeared in *The Builder* in connection with this competition: but I do think it is perfectly fair criticism to say that the deduction to be drawn, so far as I could see, was that the interests of the Bedfordshire public had not been best served by this competition. This is, as stated at the time, only one example. Others, of course, could be given, not only by myself, but, I have no doubt, by individual members present. Next, I want, so to speak, to underpin my case by removing causes of possible unsettlement in the minds of any would-be supporters. I therefore propose to anticipate the possible arguments against my case. The order in which they are given must not be taken as indicative of any greater value of one than another. First, I take the argument that I believe, was advanced by Sir Aston Webb, and which, unless I am mistaken, was to the effect that he would not have young men go in for too many competitions, as they did not pay. I am quite in agreement as to the fact of their not paying, but where I fancy a difference of opinion may exist is in respect to the particular persons out of pocket. On some occasions I can call to mind, a young and unknown man has managed in some wonderful way to win a competition over the heads of much older men, and then, of course, it is not paying for the latter. Then another objection offered is, that if promoters felt that the Institute approved of unlimited competitions, they would feel disposed to have no competition at all, but merely give the work to one man. To this I first answer, Would they? That is only capable of proof by actual experience, which, of course, is at present non-existent. Second, I would say that if this were to be so (which I do not for a moment accept as what would really occur), then, to me, it would savour far more of justice than the present compromise, which is neither fish, flesh, fowl, nor good red herring. Next I will take the argument (advanced by a correspondent) that eminent men (specialists, as he terms them) will not compete. Why? As derogatory to their dignity? If they are specialists, then it seems to my limited intelligence that they ought to make short work of their non-specialist opponents. If not, their claim to be above their fellows is a myth. As being *à propos* and topical of this question, I would ask, What called forth the original building of the Stadium at Athens, and also its recent restoration by a Greek gentleman? The answer comes, the Olympian games. Will anyone in this room maintain that such world-wide interest as accrued, or such huge crowds, or such honour, would have attended games where the best men refused to compete openly, as being derogatory to their position and attainments? Again, would the same value in the architectural mind the world over attach itself to the reputation of the late Charles Garnier had he won the competition for the Paris Opera House in a limited competition of, say, six architects? Mr. E. T. Hall, when speaking about this motion on 11th June said as follows: "Known men, who were very busy, sometimes did not see their way to go in for competitions, and he was sure the public would not say this proposal was in their interests if, as a result, the busy men refrained from entering these competitions: the more open they were the better. It was not, however, always practicable, and he thought there should be grave pause before such a resolution was passed." As to the contention in the first part of this quotation, surely Mr. Hall's sense of justice will subscribe to the old proverb that enough is as good as a feast. In other words, I hope Mr. Hall will not consider my remark offensive if I contend that his argument to me savours of the dog-in-the-manger principle. As to the latter part of the quotation I may be wrong, but I have a shrewd suspicion that in pleading for a "grave" pause Mr. Hall was not without hope of the matter being "permanently buried." Another argument raised against the motion concerns the enormous waste of time and effort to what must necessarily be a very great majority of the competitors. To answer this I contend that there is "eventually" no waste, for I regard effort expended in competition work in precisely the same light as the medical students walking the hospital, and I do not think that anyone in this room will contend that the public are anything but the better off for the voluntary undertaking. Is anyone prepared to maintain that the first library, school, town-hall, &c. won by an architect who has been going in for such competition work, is not infinitely benefited and the public convenience better served in consequence of the time and study he has had to give in competing for this class of work? One very good purpose which unlimited competitions serve is to bring to the notice of those in authority the tremendous competition that exists, and this, I think, cannot fail to have anything but a good result. I think it would be a splendid thing for this profession if a messenger from Mars could visit some of the more fortunate members of it, in the same manner as he did the gentleman in Mr. Robert Ganthony's amusing play. Before taking the next objection I would point out that the entrance for

competition is not compulsory. I do not think that the case would be complete unless I included as a possible objection the uselessness of competitions to produce the best designs. The answer to this would seem to me to be all or none—beyond this I do not think further answer is required. Another argument offered is that if the resolution be passed, public bodies may say that they will have no competition at all, but merely give it to the county or borough surveyor. Now I have no wish to run my head against a brick wall, but I may say that, whilst prepared to admit the possibility of this contention, I cannot admit the probability. To my mind the planning of buildings such as hospitals, free libraries, and municipal buildings is now so generally recognised as a matter calling for great skill and ability that I do not think for one moment that such a state of affairs as suggested would be tolerated by the public, who in these commercial days seem quite set upon getting the best article for their outlay. I may be wrong, but I hold the belief that what calls forth the building of a new town-hall or some such building lies, not so much in the fact that the existing building is impossible, but, metaphorically speaking, that that chap Stockport or Walsall next door is taking the shine out of us, and we aren't going to stand that, oh dear no! They had the lower part of their building constructed in granite. We will have an entire granite front, that we will, and bother the ratepayers! One gentleman says there is nothing professionally wrong in taking part in a limited competition, and it is not practical politics to try to prevent one from doing so. I quite agree with this contention so long as the building does not fall within the class I have indicated in the resolution, namely, public buildings. If he, however, means to include this class in his criticism, then I combat the statement that it is not practical politics. Another gentleman said to me that he did not think much good would accrue if the motions were carried; but I disagree with him, insomuch as to hold the belief that public bodies are very like sheep, and mostly follow a leader or an example, and this is one of the reasons I have in wishing to see the Institute placed in a position to pioneer an action which I think will one day prove distinctly advantageous to both the profession and the public. These are the possible objections so far as I have been able to anticipate. I quite recognise that there may be others, and shall be very glad to hear them, and, if possible, answer or refute them. In conclusion I have to say as follows to that particular body of gentlemen whom I would like to see registered as "Architecture & Co., Ltd.":—May it please your Exclusivenesses. The younger generation are knocking at your door. They are hungry. Have you the heart to keep them out? Gentlemen, I look and hope but for one answer, and whether it comes to-night or at some distant date, I cannot foretell, but I feel that it must come. That concludes my specification, and were I to go on talking, as I might easily do, I should lay myself open to the charge which a certain French writer brought against another of continuing to talk long after he had anything to say. I therefore move my first resolution as printed—viz. "That in view of the fact that limited competitions for public buildings erected with public moneys are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that such competitions should not be limited, and should take such steps as may be deemed advisable to discourage public bodies from instituting such competitions."

Mr. Wm. Woodward [*F.*] said he had much pleasure in seconding the Resolution. He had spoken to it on the former occasion, and the chief reason why he supported it was on account of the insertion of the words "with public moneys." Most of those who went in for these competitions were ratepayers in some form or other, and he always held the principle that any man who contributed to a public fund had a right to take part in the distribution of that fund. It was on that particular ground that he seconded the Resolution.

Mr. G. A. T. Middleton pointed out that there were many comparatively small competitions, particularly in provincial towns, which it would be unwise to throw open to the whole country in unlimited competition. They should have 200 and 300 competitors for £2,000 and £3,000 jobs. He would like to move as an amendment: "That such competitions should not be limited except geographically," which would allow them to make open competitions within a certain small local area, which was often done now and very wisely.

Mr. H. Heathcote Statham [*F.*]: That is a very common practice in France. You constantly hear of competitions being open to architects of certain departments.

Mr. Middleton: I move that those words be introduced "except geographically."

Mr. Edwin T. Hall [*F.*] said he did not propose to speak against Mr. Gammell's resolution generally, but he hoped the last suggestion would not be carried. Had the Meeting considered what it meant? He knew a big city—in the North—which had six competitions running now, all limited to residents within that city. It was protection of the strictest kind. What would it mean? That no London architect must compete except within the district of London. What was the good of having a metropolis at all if the people in the metropolis were not to have a broader view than the mere parochial one? It meant simply having 2,000 or 3,000 architects in London who could compete for nothing but London buildings. On the same principle London people ought not to use fireclay from Leeds or locks from Birmingham. It would be a most dangerous procedure.

Mr. Herbert W. Wills [*A.*] said he took it that this question did not often come before the Institute. Most public bodies fixed on the kind of competition they were going to invite; but, although they must all admit that a limited competition was an extremely pleasant thing to be invited for, and anyone who was invited for it must have a certain feeling of gratitude in thinking of the men who were excluded from it, and thinking of the additionally good chance he had because they were excluded, yet, if he understood it in that sense, that so far as the Institute could reasonably be expected it should advise public bodies to hold open rather than limited competitions, he should vote in favour of it.

Mr. Gammell pointed out that the terms of his resolution were: "And should take such steps as may be deemed advisable." That did not tie the Council's hands in any way.

Mr. Edwin T. Hall: If the Institute directs its servant the Council to do a thing, the Council has to do it. It must be a direction to the Council to do it or not to do it. If the Institute deliberately gives such a direction, the Council must carry it out. As to its wisdom members must settle that for themselves.

Mr. Statham suggested that Mr. Gammell should alter his resolution so as to limit the effects of it to buildings over a certain size. As had been remarked, it would be absurd to have an open competition for a building of only £2,000. Most of them would remember the case of a church near Exeter which was to cost £4,000 where there was open competition, and he believed they got 426 sets of plans. That was not good, either for the public or architects. He thought there was great advantage in open competition in the case of a really large and important building. If Mr. Gammell would alter his resolution somewhat to that effect, so as to say "buildings of £20,000 and upwards," then he thought they might agree.

The President asked if it was a fact that large public buildings were confined to limited competition. It had

not been so in his experience. The limited competitions he had heard of were generally for designs for small amounts, and he could quite see that it was a wise thing to have a limit in local places for small buildings. He did not know any very large or really important building that had been selected for limited competition, and he thought Mr. Gammell had taken rather an exaggerated view of the hardship the young architect suffered with regard to competition.

Mr. Bonner: The New Central Criminal Court in the Old Bailey was a limited competition.

Mr. C. H. Brodie [F.] said he should like to call Mr. Gammell's attention to a paragraph in a recent number of the Journal in which the Council of the Institute had taken upon themselves to point out to certain promoters—an urban district council—of a competition that the conditions were not quite such as Mr. Gammell and other gentlemen who entered into these competitions would desire. And the short reply from the Clerk to that Council was to this effect:—"Dear Sir,—We have already received nearly four hundred applications for the conditions." He should think that when cases of that kind took place there was no reason whatever for the Institute to pass a resolution suggesting that local competitions should be open. He thought that competitions were already much too open, and were a great deal too many; and also that there were too many architects who brought the profession into disrepute by rushing into these wretched, poor, mean, contemptible competitions.

The President asked if Mr. Gammell would be satisfied if this question were put before the Competitions Committee, who dealt very widely with this subject, so that they might report to the Council, and the Council report to the General Meeting.

Mr. Gammell said he would rather have a vote upon the question, as it had been up before. He would like to point out that the young architect's chance lay, not with the big-priced building, but with a medium-priced building; and it was a very great handicap to young men to be only able to go in for big-priced buildings. If a limit was put as regards the amount of the price, that immediately put a handicap on young men. It was not given to everybody to work in the offices of the shining lights of the profession; and if a young architect happened to be in a small practice, he had not the opportunity. If a man was in an office where a good deal of big work was being done, he had opportunities of learning to design on a big scale which men in a small office in a small town never could get. Therefore he could not accept an amendment with regard to the price of the building; it did not seem to him to meet the matter at all.

The President: Then I will move the amendment, if it has been seconded.

Mr. H. H. Statham: I did not formally second it, but I have no objection to do so.

Mr. Henry T. Hare [F.] said that, so far as he knew, the Institute very rarely, if at all, suggested the method or means by which a competition should be conducted. When it came before the Institute it had nearly always been settled by the promoters whether they would have an open competition or a limited one. After all, the very large majority of competitions were open ones; therefore he did not think the evil of limited competitions was a very serious one. But the consideration which had been passing through his mind during the whole of the discussion was this. For years and years the Institute had been hammering away at the abuses of competition, and they had been producing circulars, and passing resolutions, and forcing their views upon the public continually during the whole of that time; and it seemed to him that they really had better confine their attention to the things which were the most crying evils. If they were going to attempt to dictate to the public too much, they would do themselves more harm than good. In a case like this, as a matter of policy, it would be much better not to attempt to dictate to the public to this extent.

The President: I quite agree with what Mr. Hare has said.

Mr. C. E. Hutchinson [A.]: Mr. Hare has told us that in ninety-nine cases out of a hundred the promoters have already made up their minds as to whether the competition is to be limited or otherwise. Surely, very often public bodies apply to the Institute.

The Secretary: Speaking officially, I do not remember any case in which a small competition has been referred.

Mr. Hutchinson: I am not talking of small competitions.

The Secretary: I mean in comparison with the London County Hall.

Mr. R. J. Angel: The Bermondsey Borough Council (of which I am Surveyor) applied to the Institute, upon my recommendation, for advice as to a competition.

The President: As to whether it should be open or limited?

Mr. Angel: As soon as the question of a competition was started, we put ourselves in communication with the Competitions Committee of the Institute for advice, and for them to draft out a set of conditions, and they did it. That was an instance in confirmation of Mr. Hutchinson's impression.

The Secretary: The Institute is often asked for advice as regards competitions, but I do not remember our being asked to advise promoters whether they should have limited or open competition.

Mr. Angel: It seems to me that if the Meeting passes this resolution, then the Council will tell these bodies distinctly not to have a limited competition, but to have an open competition.

Mr. Middleton: I was on the Wandsworth Borough Council when the Institute was applied to, and the Institute appointed an Assessor, and the Assessor advised as to whether there should be limited or open competition.

The President: That is a different matter.

Mr. E. T. Hall: We must not have any confusion. The Assessor was not acting for the Institute in the remotest degree, and, so far as my recollection goes, we have never once been asked to advise whether a competition should be limited or open. The promoters have applied for advice as to the conduct of competitions, and that has always meant a copy of the Institute Regulations for Competitions being sent to them. I do not know of a single case, except the London County Council—this last case—which arose out of our own pressure.

Mr. Gammell: I was asked just now to quote any instance of a limited competition being held, and I have great pleasure in reading out the following:—The New Central Criminal Court, the Manchester Exchange, the Liverpool Exchange, the Watford Baths, King's College Hospital, the Stockport Town Hall. Those are a few, but I have here a list which it would take about ten minutes to read.

Mr. Hare: I should like to propose another amendment—viz. that this question be referred to the Competitions Committee to report to the Council.

Mr. Edwin T. Hall: I second that.

The President having put Mr. Hare's amendment, on a show of hands it was declared lost—twenty-two voting for and twenty-seven against it.

The President then put Mr. Middleton's amendment proposing the insertion of the words "except geographically."

On a show of hands the amendment was negatived by a large majority.

The President then put Mr. Gammell's resolution as originally moved, and on a show of hands it was declared carried.

The President, having read Mr. Gammell's second

resolution—viz. "That this Institute exert its influence in obtaining the abolition of the growing custom of penalising non-competing architects by retaining their deposit"—said he thought Mr. Gammell might leave it in the hands of the Competitions Committee of the Council. There ought to be no penalising.

Mr. GAMMELL: I do not think there can be any objection to the resolution being put. This is not a myth; it has unfortunately happened to me so many times that it has induced me to bring this up; so I beg to move the resolution.

Mr. EDWIN T. HALL said he had much pleasure in seconding it.

The resolution was then formally put from the Chair and carried unanimously.

The following letter on the subject of Mr. Gammell's first resolution was addressed to the Chairman of the Meeting:—

46 *Lincoln's Inn Fields, London, W.C.: 7th January* 1907.

DEAR SIR,—As I cannot be present when Mr. Gammell's first resolution *re* Competitions is moved this evening, may I be allowed to say by letter that my name has been given in support of the resolution from the desire to have the question thoroughly discussed?

There seems no doubt that most of the architects generally nominated as competitors in such limited competitions have won their spurs in open competition, whereas this system of limited contest tends to close like opportunities for the present generation of clever young architects.

I am fully aware of the advantages the limited system possesses in saving time and cost to the promoters, but, considering the large benefits they receive under any competition, their interests are, in my judgment, secondary to the interests of those who are willing to contribute the designs. Moreover, I think the resolution is right in declaring that in many instances these promoters would be better served by an open, or a preliminary, sketch competition.—Yours faithfully,

W. H. SETH-SMITH.

Duties of Assessors.

At the same Meeting, following the proceedings previously reported, Mr. Herbert W. Wills [*A.*] brought forward the following Resolution, notice of which had been duly given and circulated among members:—

> "This Meeting considers that the Assessor in a competition should refrain from any expression of doubt as to the relative merits of the designs placed in his Award, such expression of doubt being calculated to weaken the effect of his Award, and to lead the promoters to override it, to the great detriment of the object aimed at—viz. the adoption of the best design."

THE PRESIDENT having called upon Mr. Wills, and drawn attention to the lateness of the hour,

Mr. WILLS said he thought his resolution was so excellent that it would commend itself to all. He would therefore simply read it and ask the President to put it to the Meeting.

THE PRESIDENT: I think the whole Meeting is with you.

Mr. E. T. HALL: This is already in the Paper of Instructions sent to Assessors, clause 8 of which says: "The formal communication conveying the Assessor's decision to the promoters should be in the form of an award and not a report, and it should be so absolutely and decisively worded as to leave no doubt in the minds of the promoters as to his opinion of the merits of the designs. If any explanations of the award be required they should be given verbally."

Mr. WOODWARD: Do those instructions go out?

Mr. E. T. HALL: Yes; those are the printed instructions for Assessors. We all thoroughly agree with Mr. Wills.

THE PRESIDENT: We will mark it with red ink, Mr. Wills.

Mr. WILLS: Thank you. I may say that I have acted as an Assessor, and I have never received that notice.

Mr. Wills's resolution, having then been put to the Meeting, was carried unanimously.

American Presentation to Sir Aston Webb, R.A.

The Times correspondent telegraphs from Washington on the 9th inst.:—

"The American Institute of Architects last night presented Sir Aston Webb with a gold medal for distinguished achievement in architecture on the occasion of a dinner at the Corcoran Art Gallery in celebration of the golden jubilee of the Institute. Mr. Howard read a letter from Lord Knollys on behalf of the King, asking him to convey to the President of the Institute his Majesty's satisfaction on hearing of the first medal given to an Englishman, and one of such professional repute as Sir Aston Webb, and wishing every success to the Institute. Mr. Howard's first speech as Chargé d'Affaires contained a graceful allusion to the conspicuous honour done to an Englishman, which he felt was justified. Sir Aston Webb had in the development of the Queen's Memorial given London something it lacked in the splendid continuation of a spacious avenue and in monumental architecture.

"In acknowledgment Sir Aston Webb said that he recognised that the award was bestowed through the desire of Americans to honour English architects. He alluded to the rebuilding of the Quadrant in Regent Street as an example of architectural improvements in London similar to designs carried out in American cities. He also instanced a great improvement scheme for Washington prepared by the Columbia Park Commission, promising when completed to make the capital one of the beauty spots of the world."

The late Henry Simpson Legg [*R.F.*].

At the General Meeting of the 7th inst. formal announcement was made by the Hon. Secretary, Mr. Alexander Graham, F.S.A., of the death of Mr. H. S. Legg, a member of the Institute for forty-seven years and a district surveyor in London of over forty years' standing. Mr. Legg was elected Associate in 1859 and proceeded to the Fellowship in 1873. A few weeks ago, at his request, the Council transferred him to the class of Retired Fellows. Mr. Legg passed the statutory

examination qualifying him to act as District Surveyor in 1856, and received his appointment to the post of District Surveyor for Mile End in 1865. He had only quite recently resigned this appointment.

Mr. H. T. Bonner [*A.*], rising and addressing the Meeting at the conclusion of Mr. Graham's announcement, said that it had occasioned him great sadness to read of the decease of his late friend, Mr. Henry Simpson Legg. He had had the pleasure of knowing Mr. Legg for over forty years, and for a considerable portion of that time it had been his privilege to work for and with him. Although he was not perhaps so well known at the Institute as were many other members, he had carried out several important works in the shape of hospitals, schools, churches, and public and private buildings. Mr. Legg was not by any means an advertising architect; one never saw his name, for instance, put upon a board outside his buildings. He worked always in a refined and scholastic way. As regards his work, he belonged rather to the older school, the school which favoured the more purely classic style. He for one felt he had sustained a great loss—really a personal loss—when he read of his death. They had many good men and many good architects in the Institute; but it would always be a pleasure to remember such a good and kindly man as their late colleague—a man who held a very high opinion of his profession, and whose guiding principles were honour, integrity, and single-mindedness. He thought they should put on record with regret the death of such a man, who had been for so long a period a member of the Institute.

The New South Wales Institute.

The Institute of Architects of New South Wales have arranged that the examination for admission of Associates to that body shall commence as from the 31st March 1907. After that date all persons desirous of being admitted as Associates will be required to pass or to have passed an examination equivalent to the R.I.B.A. Intermediate.

The British Schools at Athens and Rome.

The Managing Committees of the above Schools issue the following statement of the work of the Schools, as well for the benefit of intending students and of visitors to Rome and Athens, as for the purpose of enlisting interest and support.

The British School at Athens (founded in 1886) gives to British students of Greek archæology and art the opportunity of pursuing their researches in Greece itself, with command of the means which the recent great advances of the science have rendered indispensable. Athens is now an archæological centre of the first rank. The concentration in the Athenian museums of numerous and most important discoveries which have taken place on Greek soil in the last few years has made a personal knowledge of those museums in the highest degree desirable for Hellenic scholars, and nowhere else can the architecture of ancient Greece be studied to such advantage. The excavations of the School in past years in Cyprus, in Crete, at Melos, in the Peloponnesus, and elsewhere are striking examples of what has been added to our knowledge by British research.

The School is now entering on its second year's operations on the site of ancient Sparta. The work already done in Laconia includes a catalogue of the Sparta Museum, surveys of the fortifications at Epidaurus Limera, Zarax, and Geronthrae, and trial excavations at Thalamae, Geronthrae, and Angelona. Researches in the remains of the Byzantine age have also been carried on at Monemvasia, Maina, and Passava. At Sparta itself rich finds were made when work was begun on the site of the Temple of Artemis Orthia. The whole of this site has recently been acquired by the School, and its excavation, for which funds are greatly needed, will form the major part of the coming season's work. A special illustrated appeal for £1,500 for this object has recently been circulated.

Until to-day archæologic research has done little or nothing to add to our knowledge of the State which vies with Athens herself for the commanding place in Hellenic history, and it rests with us to see that the work thus happily inaugurated at Sparta is adequately sustained.

The creation of the British School at Rome was in a sense the complement of the foundation of the School at Athens, the work of which had been mainly devoted to the study of the civilisations antecedent to the civilisation of Rome. The conditions of work, however, are necessarily different in a country where the national authorities reserve to themselves the right of excavation, and the energies of the Roman School have in consequence been mainly devoted to research and publication. The School is now housed in the Palazzo Odescalchi, and its premises include a Library of upwards of 2,000 volumes. The Managing Committee have secured the services in succession of three Directors with special qualifications in the respective spheres of mediæval and classical archæology, and of competent Assistant Directors. Three volumes of the *Papers of the British School at Rome* have appeared, and the fourth is now in preparation.

The prospects of the School, if it receives adequate support, are at this juncture most promising. A scheme for a definite and substantial work, the cataloguing of the Municipal Collections in Rome, has met with the sanction and co-operation of the Italian authorities, and the first volume, dealing with the Capitoline Museum, is now in course of preparation. In the second volume of the *Papers*

of the School appeared the facsimile reproduction of the Coner MSS. in the Soane Museum, and this publication may be looked on as the first instalment of a comprehensive scheme for rendering accessible other treasures of this kind. His Majesty the King has graciously given permission for the publication of the Dal Pozzo drawings in his possession, and their appearance may be looked for in future volumes of the *Papers*. The Director's exhaustive study of the topography of the Roman Campagna, two sections of which have appeared, is proceeding; and plans are under consideration for anthropometric and ethnographic research in Sardinia.

It is scarcely necessary to urge on students of history the debt which modern civilisation owes to that of Rome. On no other single spot could the development of religion, art, literature, and politics be similarly deduced from the irrefragable evidence of monuments, and the story of this development from Classical through Mediæval to Renaissance times has been from the outset the field of the School's work.

The student requires two auxiliaries when working in Athens or Rome. First, the command of an adequate library; and secondly, the advice and help of a trained archæologist, residing on the spot, occupying an official position recognised by the local authorities, and following the rapid advances of the science, due partly to new discovery and partly to the rearrangement of old materials. Both these advantages are now secured to the students of either School. Students are admitted free of charge, the principal conditions being that they shall pursue for three months some definite course of study or research, and that they shall at the end of the Session write a report of the work which they have done. By a recent rule an aggregate residence of four months at the two Schools qualifies for studentship at both. The Committees also elect as Associates visitors or residents engaged in study or exploration who do not qualify as regular students. All students, associates, and subscribers have the right to attend the open meetings of the Schools and to use the Libraries.

Both Schools receive from the State an annual grant of £500, which has to be renewed at the expiration of every term of five years. This recognition on the part of H.M. Government gives permanence and stability to the work of the Schools, but for the furtherance of the plans enumerated above the Committees ask the continued and liberal support of the public, and, indeed, the renewal of the Government grant depends upon such support being given.

Subscriptions will be gladly acknowledged by the Hon. Treasurers, Vincent W. Yorke, Esq., M.A., Farringdon Works, Shoe Lane, E.C. (for the School at Athens), and A. H. Smith, Esq., M.A., 22 Endsleigh Street, W.C. (for the School at Rome).

Full information of the work of the Schools may be obtained on application to the Secretary, Mr. John ff. Baker-Penoyre, at 22 Albemarle Street, W.

MINUTES. V.

At the Fifth General Meeting (Business) of the Session 1906-07, held Monday, 7th January 1907, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair, 35 Fellows (including 9 members of the Council), and 57 Associates (including 1 member of the Council),—the Minutes of the Meeting held 17th December 1906 [p. 125] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President—viz. Henry Edmund Mathews, *Fellow*; Ernest John Dixon, Arthur Christopher Goulder, Edward Holsworth Walker, Francis John Humphry, Sydney Moss, Alexander Cowie, John Newton, William Dathy Quirke, *Associates*.

The Hon. Secretary having announced the decease of Henry Simpson Legg [*R.F.*], Mr. Horace T. Bonner [*A.*] expressed his deep regret and sense of personal loss at the event, and paid a tribute of respect to the high character and merits of the late member.

The Secretary read, translating into English, a letter from M. H.-P. Nénot, President of the Central Society of French Architects, presenting to the Institute on behalf of his Society a gold medal in commemoration of the Seventh International Congress of Architects: whereupon the thanks of the Meeting were accorded the Society by acclamation, and the Secretary was instructed to write expressing the thanks of the Institute and its cordial appreciation of the gift.

The Hon. Secretary formally announced the receipt of donations to the Library, and on his motion a vote of thanks was passed to the donors.

The Secretary announced that, by a resolution of the Council under By-law 20, the following had ceased to be members of the Royal Institute—viz. John Thompson, Michael John Gummow, Herbert Baron Walters, Herbert John Philip Kimpton.

The following candidates for membership were elected by show of hands under By-law 9:—

As Fellows (2).

CHARLES SYDNEY SPOONER.
THOMAS HARRY WESTON [*A.* 1895] (Bristol).

As Associates (2).

MATTHEW JAMES DAWSON [*Probationer* 1900, *Student* 1905, *Qualified for Assoc.* 1906].
HARRY GEORGE LESLIE, F.S.I. [*Special Examination*].

The following were elected *en bloc* by acclamation:—

As Hon. Corresponding Members (16).

ROBERT BÖKER (Member of the Imperial Society of Russian Architects) (St. Petersburg).
LOUIS BONNIER, President of the Société des Architectes diplômés par le Gouvernement Français, Architecte-en-Chef des Bâtiments Civils et Palais Nationaux.
FRANK MILES DAY, President of the American Institute of Architects; Lecturer on Architecture at Harvard University (Philadelphia, U.S.A.).
JEAN-JOSEPH CALUWAERS (Brussels).
MARIANO EDUARDO CANNIZZARO (Rome).
CASS GILBERT, Vice-President American Institute of Architects (New York, U.S.A.).

GEORGES HARMAND, Avocat à la Cour d'Appel, Paris, Member of the Judicial Council of the Société Centrale des Architectes Français (Paris).
HERMANN HELMER, K.K. Oberbaurath (Vienna).
VIRGIL NAGY, Building Councillor to the Kingdom of Hungary, Professor at the Hungarian Technical University (Budapest).
LUDWIG NEHER (Frankfort-on-Main).
GEORGE B. POST, Chevalier of the Légion d'Honneur (New York, U.S.A.).
JACQUES MAURICE POUPINEL, Architecte diplomé par le Gouvernement Français (Paris).
ABRAHAM SALM G.B.zn (Amsterdam).
VENTURA TERRA (Lisbon).
DON FERNANDO ARB S Y TREMANTI, Member of the Spanish Academy of Fine Arts, Inspector-General of Works at the Ministry of Fine Arts, Madrid.
GUSTAF WICKMAN (Stockholm).

The President having called on Mr. Herbert W. Wills [*A.*] to bring forward a motion of which he had given notice with reference to the employment of public officials for public works of architecture, objection was taken that the matter of Mr. Wills's motion having been discussed and voted upon by the Institute so recently as the 3rd December last, it was contrary to precedent and out of order to bring what was practically the same question forward again after so brief an interval.

The President having intimated his opinion that it rested with the Meeting to decide whether the motion in question should be proceeded with, a resolution, formally moved by Mr. W. E. Riley [*F.*] and seconded by Mr. R. J. Angel [*A.*], that the Meeting pass to the next business, was put from the Chair, and declared carried on a show of hands.

Mr. Wm. Woodward [*F.*], in accordance with notice, drew attention to the proposed conditions of competition for the new London County Hall, with especial reference to the proposal to invite certain architects to submit designs in the final stage of the competition, and moved the following resolution: "That this Meeting is of opinion that all drawings for the competition for the London County Hall, including the designs of the eight selected architects, be sent in on one and the same day. The Meeting also decides that a copy of this resolution be forwarded by the Secretary of the Institute to each of the architects who are members of the Institute, and that a similar copy be forwarded to the London County Council."

The subject having been discussed, an amendment, moved by Mr. W. D. Caröe, M.A., F.S.A. [*F.*], and seconded by Mr. Maurice B. Adams [*F.*], in the terms of the resolution set out below, was carried by a large majority; and having been put as a substantive motion the Meeting

RESOLVED, That the London County Council be invited to extend the time allotted to the two competitions to nine months, of which six shall be devoted to the first competition.

Mr. K. Gammell [*A.*], in accordance with notice, brought forward the following resolutions:—1. "That in view of the fact that limited competitions for public buildings erected with public moneys are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that such competitions should not be limited, and should take such steps as may be deemed advisable to discourage public bodies from instituting such competitions." 2. "That this Institute exert its influence in obtaining the abolition of the growing custom of penalising non-competing architects by retaining their deposit."

Mr. Gammell read some remarks in support and moved his first resolution, which was seconded by Mr. Wm. Woodward [*F.*].

An amendment by Mr. G. A. T. Middleton [*A.*], seconded by Mr. H. H. Statham [*F.*], proposing the insertion of the words "except geographically" after the words "should not be limited" was put to the vote and negatived.

A further amendment by Mr. Henry T. Hare [*F.*], seconded by Mr. Edwin T. Hall [*F.*], proposing that the question be referred to the Competitions Committee to consider and report to the Council, was also put to the vote and negatived—22 voting for and 27 against.

The resolution as first moved was then formally put from the Chair, and it was

RESOLVED, That in view of the fact that limited competitions for public buildings erected with public moneys are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that such competition should not be limited, and should take such steps as may be deemed advisable to discourage public bodies from instituting such competitions.

Further, on the motion of Mr. K. Gammell [*A.*], seconded by Mr. Edwin T. Hall, it was

RESOLVED, That this Institute exert its influence in obtaining the abolition of the growing custom of penalising non-competing architects by retaining their deposit.

Upon the motion, in accordance with notice, of Mr. Herbert W. Wills, the Meeting, without further discussion, unanimously

RESOLVED, That this Meeting considers that the Assessor in a competition should refrain from any expression of doubt as to the relative merits of the designs placed in his award, such expression of doubt being calculated to weaken the effect of his award and to lead the promoters to override it, to the great detriment of the object aimed at—viz. the adoption of the best design.

The proceedings then closed, and the Meeting separated at 10.5 p.m.

REVIEWS.

LOUTH SPIRE.

Sketches and Sonnets illustrative of the Spire of St. James's, Church, Louth. By John J. Cresswell, A.R.I.B.A. 8o. London, 1906. Price 3s. 6d. [Alexander Moring, Ltd., De la More Press, 32 George Street, Hanover Square, W.]

By a curious dispensation—or shall we not say a merciful dispensation?—of Providence it has been arranged that, as a rule, he who finds expression in one medium shall be dumb and inarticulate in all else. As a rule, nowadays at any rate, the musician does not attempt drama or statuary, nor the poet a sonata; nor is last year's successful novelist and dramatist tempted to design town-halls and washhouses. There have indeed been exceptions; in the days of the Early Renaissance of Italy almost everybody was an exception. In our own days Lord Leighton, Mr. Watts, Mr. Woolner, have been exceptions. But the practising architect as a rule sticks to his last, or rather to his tee-square. In after-dinner dithyrambs the products of his art may be petrified poetry or even frozen music; but as a matter of fact he does not find that he needs must rush for expression to the epic,

FROM MR. JOHN J. CRESSWELL'S "SKETCHES AND SONNETS ILLUSTRATIVE OF THE SPIRE OF ST. JAMES'S CHURCH, LOUTH."

(Printed from a block kindly lent by the Publishers.)

the drama, or the lyric. Mr. Bodley, however, not so very long ago burst through the barriers that repress professional emotion. And now another practising architect, Mr. J. J. Cresswell, of Grimsby, has joined the scanty band of architect-poets, conferring at once new lustre on his profession, and adding yet another name to the long list of Lincolnshire worthies, which, as you may hear at any dinner of the members of the Lincolnshire Society, surpasses in length that of any county in England excepting only Devon and Middlesex. Those who associated the county with nought but frogs and fens have spoken of its inhabitants as "yellow-bellies." But long ago Fuller said of Lincolnshire that "as it equalled other shires in all ages, so it went before itself in one generation," the spacious times of Good Queen Bess. And for his theme Mr. Cresswell, fitly, as becomes a Lincolnshire man, has chosen a Lincolnshire subject, that beautiful spire beneath whose shadow he was born and bred: the sky-y-pointing pyramid—

That far above the vapour-shrouded town,
Above sense-gendered mists where weak souls drown,
Engendering nobler deed and nobler thought
Shineth through whatsoe'er of true or high
The mind hath figured or the hand hath wrought.

The quotation, slightly varied, appears in his *Sketches and Sonnets*, published last year and to be obtained of the author. The collection comprises twelve sonnets, together with seven illustrations of the spire from Mr. Cresswell's drawings; the one which is reproduced on the preceding page shows the interior of the lantern.

To the writer, to whom the spire has long been familiar, Mr. Cresswell's book has given real pleasure, not only for the theme, but for the treatment. For these sonnets are more than verse, more even than good verse; the author a poet stands confess't. Again and again, as one reads, one comes upon noble thought wedded to noble words. In one striking passage he tells us how the Pyramids arose with sound of bitter groan and the crack of the taskmaster's whip at some stern Pharaoh's command. Not so the quiet growth of the parish churches of happy, peaceful England.

Our sires with joyous song and grateful heart
Above their red-roofed homes, the busy mart,
The fruitful cornfield and the daisied sod,
Where they had loved and wrought, and played and wept,
Lifted this fair thank-offering to God:
Then, with His blessing, in its shadow slept.

Of the series of sonnets perhaps the seventh will win most favour; and with it this short appreciation may fitly conclude. It should be premised that Louth, with its pleasant Georgian houses, lies in a little valley where a trout-stream debouches into marshland which extends far out east to sea. At the back rise the Lincolnshire Wolds, here well wooded. The spire of the church is reached as usual by a newel staircase, the upper part of which is unlighted. The contrast is all the more striking when one emerges from the darkness of the upper part of the stairs to the battlements, and suddenly there bursts into view the broad expanse of hill and wood and the illimitable marsh.

Step over step, and round on weary round,
Faint, fainter grows the murmur of the street,
While each dim latticed loophole's due repeat
Shews further sunk the still-receding ground;
Light dies away, and dies away all sound,
Save slow and slower tread of toiling feet,
The solitary clock's dull ceaseless beat,
And whispering echoes in the stillness drowned.
But sudden bursts the sun, blows heaven's free air,—
There far abroad in the calm noontide ray
Lie fertile plain, grey wold, and woodland gay,
Rooted with one sweeping vault of azure clear;
Weakness forgot and sorrow cast away,
Earth shows more beautiful, Heaven shines more near.

FRANCIS BOND.

THE COMPOSITION AND STRENGTH OF MORTAR.

[See JOURNAL, p. 17.]

Mr. WILLIAM DUNN's communication, handed in by Mr. H. D. Searles-Wood at the General Meeting of the 17th ult., is as follows:—

The members of this Institute, and indeed all interested in good building, must be grateful to Mr. Dibdin for so freely laying before them these results of long and expensive experiments made in the interests of science. A great deal of knowledge has been acquired in England, as in other countries, of the strength of materials from similar work; but here unfortunately, from want of public spirit or other cause, it is put away in the pigeon-holes of large firms, and not available to all. We must honour those who, laying aside all selfish desire to keep their store of information to themselves, and animated only by the wish to advance knowledge, so generously make known the results of their labours.

Mr. Dibdin has not dealt with the question of Portland cement mortars, which has been most fully investigated by M. Feret in France. M. Feret found, in regard to the fineness of sand, that for similar proportions—

(*a*) The strength is less if the grains of sand are regular—all of one size.

(*b*) The smaller the grain—*i.e.* the finer the sand—the less the strength.

(*c*) The strength is increased by the use of grains of mixed sizes.

The use of grains of various sizes results in a mortar having less voids, because the small grains fill up the interstices between the large ones. If we had the choice of two sands, large-grained and fine-grained, the large-grained sand would make a stronger mortar than the fine-grained, but a mixture of the two would make a stronger mortar than either alone. Reckoning as large grains the sand which will pass a sieve of 5 mm. by 5 mm. and be retained on one of 2 mm.; as medium grains that which passes one of 2 mm. and is retained on a 0·5 mm. sieve; and as fine grains all which passes a 0·5 mm. sieve, M. Feret finds that the maximum strength is obtained by sands in which there are no medium grains, the proportion of large grains being double the fine grains, including the matrix itself as fine grains. M. Feret shows his results by ingenious diagrams in the form of triangles in the *Annales des Ponts et Chaussées*, vol. vi. (1892), and a valuable *résumé* of his experiments will be found in Johnston's *Materials of Construction* in the Institute Library.

Mr. Dibdin has also shown that the addition of a small proportion of clay (not mould) to a sand in some cases tends to increase its strength. A series of experiments in America, most carefully made and extending over three years, led to the same results.

Messrs. W. Cubitt & Co. have made a series of experiments on the strength of Portland cement mortars as determined by tension on briquettes, and Portland cement concretes as determined by compression on 4-inch cubes, using various sands, washed and unwashed, from Leighton Buzzard, Poole, Northfleet, ordinary Thames sand, &c. They also found that in some cases the unwashed sand gave better results; in other cases there was but little improvement by washing. Cubitt's experiments were on briquettes and cubes at various ages from seven days to one year, and with their kind permission are given below.

It is not to be assumed that the presence of clay always improves a mortar. The true lesson to be drawn from all these experiments is rather that in any important case we should make tests with the actual sand to be used. Nowadays, testing-machines are readily available.

TESTS OF BRIQUETTES OF SAND AND PORTLAND CEMENT MORTAR WITH WASHED AND UNWASHED SANDS MADE IN 1905–6 BY W. CUBITT & CO., 258 GRAY'S INN ROAD, LONDON, W.C.

The following are each average results of six briquettes:—

—	Proportion by weight	Tensile tests (in lbs. per square inch) after				
		7 days	1 month	2 months	3 months	12 months
Sand dug out of trenches in Long Acre, London, W.C., containing 25 per cent. of clay, unwashed	1 part cement 3 parts sand 10 per cent. clean water	161	269	441	460	541
Sand as above, but washed and retained on a sieve 1,600 meshes per square inch (25 per cent. passed through the sieve)	Ditto	268	340	407	412	702
Unwashed sand from Poole, Dorsetshire, containing only ·05 per cent. of residue through a 1,600-mesh sieve	Ditto	323	383	556	546	—
Poole sand as last washed	Ditto	318	477	480	521	—
Residue of above sand	Ditto	234	285	326	—	—
Unwashed pit sand from Northfleet, Kent (a good sharp sand)	Ditto	305	356	366	423	—
Sand as above washed	Ditto	285	351	420	443	—
Unwashed Thames sand dredged near Gravesend	Ditto	211	296	286	—	—
Sand as above washed	Ditto	247	322	374	—	—
Residue of above sand	Ditto	207	286	315	—	—

TESTS OF PORTLAND CEMENT CONCRETE CUBES MADE WITH WASHED AND UNWASHED BALLAST AND SAND IN 1905–6 BY W. CUBITT & CO., 258 GRAY'S INN ROAD, LONDON, W.C.

The following are each average results of three cubes :—

—	Proportion by weight	Resistance to compression on 4-inch Cubes in tons after			
		1 Month	2 Months	3 Months	6 Months
Unwashed ballast and sand from Long Acre, very clayey	1 to 5, viz.: 1 cement, $3\frac{1}{3}$ ballast, $1\frac{2}{3}$ sand, 10 per cent. clean water	17	13	15	27
Ditto washed	Ditto	24	24	31	35
Unwashed ballast and sand from Poole, Dorsetshire	Ditto	18	26	26	38
Ditto washed	Ditto	22	24	25	39
Unwashed pit ballast from Northfleet, Kent	Ditto	16	20	25	—
Ditto washed	Ditto	22	19	27	—
Unwashed Thames ballast and sand dredged near the Nore (very good and clean)	Ditto	28	34	40	45
Ditto washed	Ditto	34	39	45	49

TESTS OF THE PORTLAND CEMENT USED IN THE EXPERIMENTS.

Temperature of air in the test-room 56° F.
" water " 55° F.
Apparent density of the cement 1·035 ; specific gravity 3·1.

Fineness.

Residue on 50 × 50 standard sieve (2,500 meshes per square inch) nil per cent.
" 76 × 76 " (5,776 " ") " "
" 180 × 180 " (32,460 " ") 14 "

Setting Time.

Final in air 5 hours. Water used 25 per cent. by weight.
" water 7 " " " "

Soundness.

Pats set in air sound, and after being in boiling water 6 hours sound.
" water " " " " "

Expansion.—Le Chatelier's Test.

Cylinder set in air nil mm., and after being in boiling water 6 hours 2 mm.
" " water " " " " " 1 "

Tensile Tests (in lbs. per square inch).

	Neat Cement		3 of Standard Sand and 1 of Cement	
	7 Days	28 Days	7 Days	28 Days
Average in lbs. of six briquettes each	860	971	262	403

Percentage of water used in gauging the neat briquettes 18 per cent. by weight.
" " " sand " 10 " "

BYZANTINE SARCOPHAGUS (Sebah & Joaille), Photographers Constantinople.

MARBLES: THEIR ANCIENT AND MODERN APPLICATION.

By Sir LAWRENCE ALMA-TADEMA, O.M., R.A. [*H.F.*], and WM. BRINDLEY, F.G.S., F.R.M.S.

I. MARBLES: THEIR ANCIENT APPLICATION. By Sir L. ALMA-TADEMA.

AT the request of the President and Council, I venture to read to you to-night some gleanings from the little I know about marble and its use in antiquity.

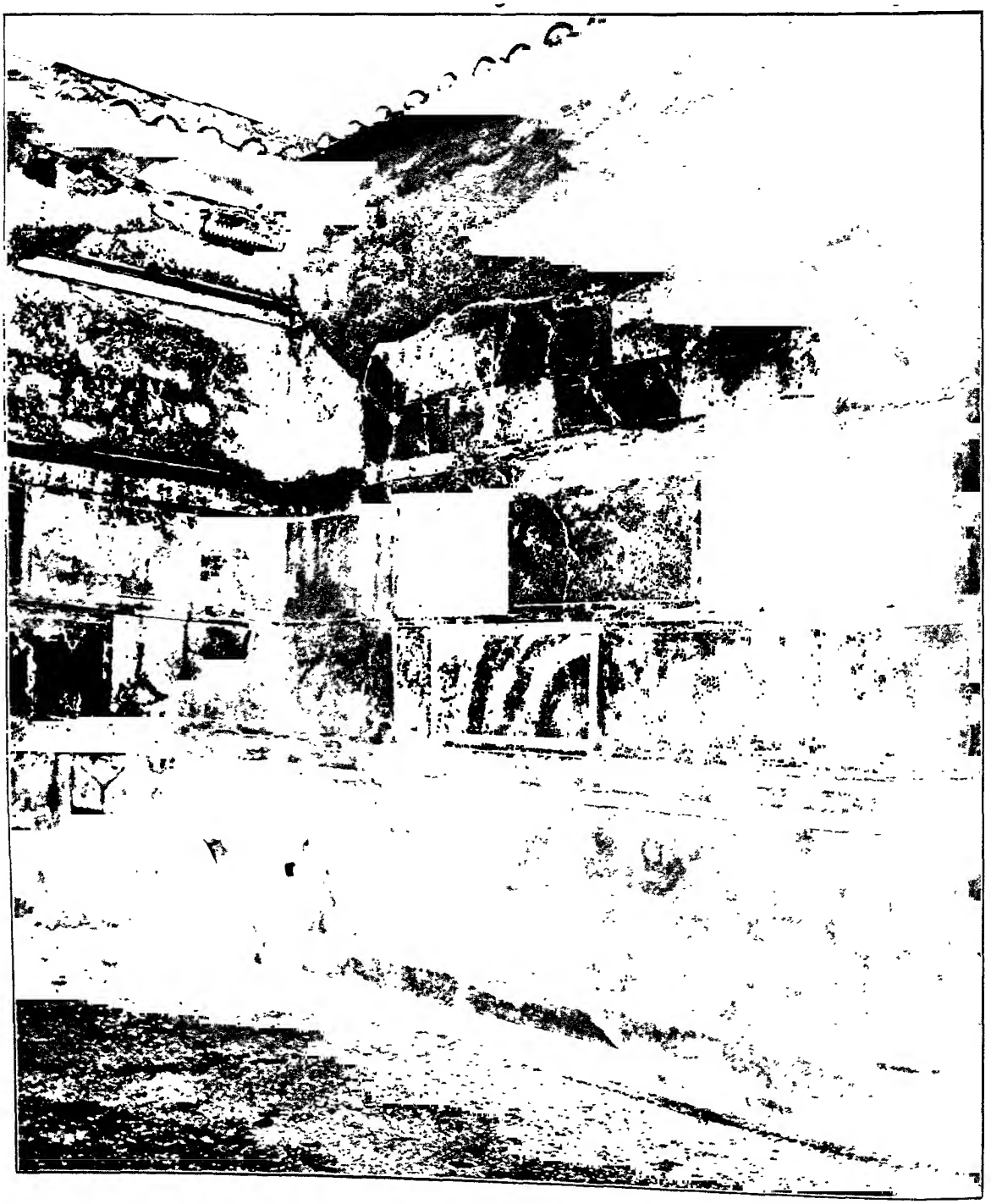
Antiquity in this case means, I suppose, the time before the dark days, when the Roman civilisation had come to an end of its supreme reign in the then known world. But its reign has never really ended, for the influence of the Roman civilisation lives still, and we are benefited by it more than we are aware of, and the dream of the great rulers has ever since been the reconstruction of the Roman Empire.

As for architecture, it is needless to say that it owes much to Roman art, especially through the Renaissance, when the love of marble reappeared; for this beautiful material was sadly neglected in the Middle Ages, to such an extent that even the places where it was quarried had been forgotten, and pioneers like our Mr. Brindley had to hunt for them, and by sheer enthusiasm and persistent research, succeeded in rediscovering several of the old quarries from which these glorious columns and slabs were extracted, which will ever command our admiration.

True, Roman art owes much to the Greeks, who in their turn owe much to the Egyptian, and the Mesopotamian, and the Syrian civilisations, but what interests us most just now is that the Romans used marble more than any other people before them.

In Egypt, granite, porphyry, and onyx (or rather Oriental alabaster) were only used as building materials, never to my recollection to beautify a building decoratively.

In Nineveh we find sculptured slabs of marble utilised as a dado, but the principal materials used for decorating a building seem to have been tiling and metal. Tiles were also



HOUSE OF SALLUSTIUS, POMPEII.

HOUSE OF SALLUSTIUS, POMPEII.

used in Egypt, the sepulchral chamber of one of the oldest pyramids being decorated in that material.

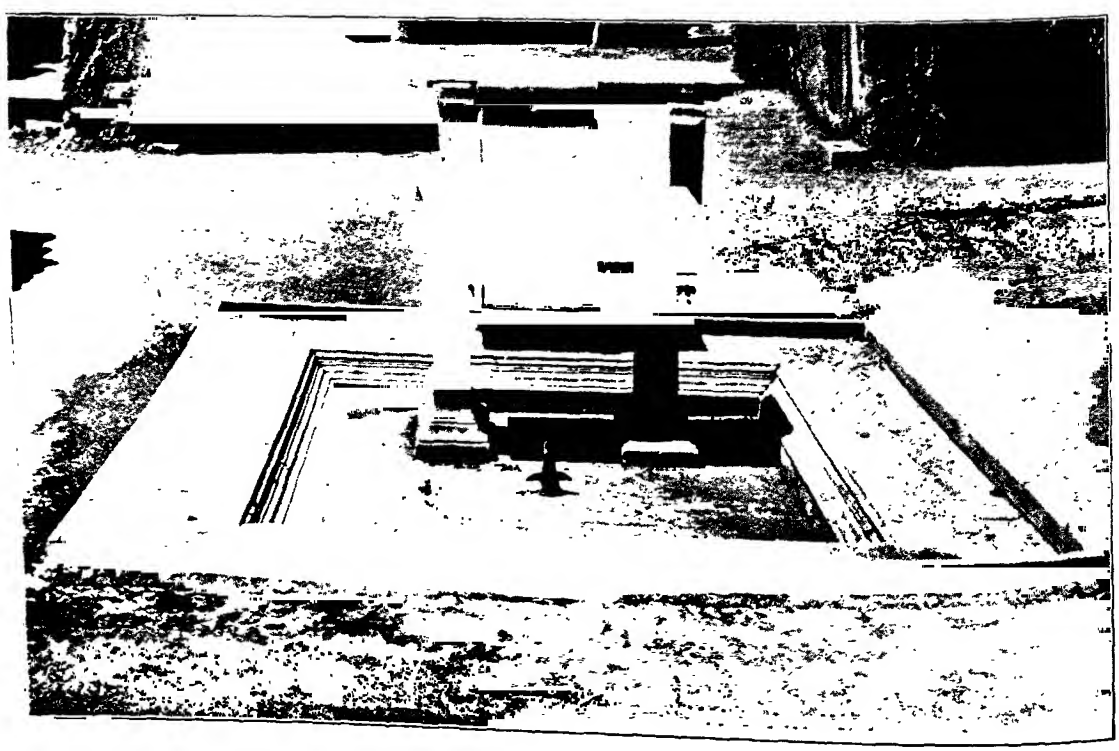
Where marble was first used for decoration (setting aside the sculptured slabs at Nineveh) I have been unable to discover ; though this use of it must go back to great antiquity, to judge from what Pompeii teaches us. There indeed we find in the oldest wall painting many painted imitations of marble slabs and dados, as shown in the photographs [pp. 170, 171] of a room in the house of Sallustius.

The houses where these paintings are found undoubtedly date from the Republic, for in them, as in the house of the Mosaic of the Battle of Issus, we find purple much used. This colour never appears in the later Pompeian decoration, as during the Empire it was used by the Imperial family only.

Amongst the things which astonished me most at Pompeii was that in a town where marble was little used, very precious marbles were put to common use. For instance, I found in quite ordinary houses, bronze door-sockets let into rough blocks of Oriental alabaster, evidently remnants of some marble mason's workshop.

The only marble columns I recollect in Pompeii, are some unfinished ones in the new bath which was being built when the town was buried, and some in the Temple of Venus, also in course of erection.

I remember only two marble dados in rooms, one in a small house behind the Forum, opposite the house of Eumachia, made of that cold grey marble still so much used in Naples, set off with beadings of rosso antico (to my regret I have lost the drawing of it), and another in a small room, this time in the house of Sallustius, made of different sorts of marble, as you can see in my drawing [reproduced p. 173].



AN IMPLUVIUM, POMPEII.

Then we find marble used on shop counters [see illustrations pp. 175, 176]; but there are very few so carefully treated; more often it is only pieces of slabs of different colours imbedded anyhow in the cement, the top being always a slab of marble.

I remember only one marble public fountain in the streets of Pompeii, the one behind the oldest bath; but the sculptured heads for the inlet of the water are more often in that material.

The floors are mostly of marble, either slabs or mosaic, and many impluviums in the richer houses are covered with white marble, as are some of the altars and pedestals; but one of the finest bits of marble in Pompeii is the door frame of the house of Eumachia, now in the Naples Museum.

As for sculpture, of course there is plenty of it in marble. When a Roman will was made sculpture was considered an item of value, as was house property and cattle. Strange to say, pictures do not seem to have been considered in that light, although they sometimes commanded high prices. Julius Cæsar bought for his public gardens in the Transtevere the Medea, and another picture by Timomachos of Byzantium, a contemporary artist not an old master, and paid £16,000 for the two.

In Pompeii marble was also largely used for the funeral monuments outside the town, but always as a veneer over brick or concrete, which proves that it was a costly material.

DADO IN HOUSE OF SALLUSTIUS, POMPEII.
From a water-colour drawing by Sir L. Alma-Tadema.

By utilising marble in that way the Romans obtained very great dexterity in applying thin slabs, and saved the material itself greatly. This way of utilising marble had a great influence upon the form of the mouldings, as in most instances, the slabs being applied to the bed of cement in such inclination as the body of the moulding required, the moulding became subservient to the thickness of the slab.

In Rome itself the use of marble was much more prolific. Already during the Republic it was used most luxuriously, for we learn that when Julius Cæsar reached Rome after crossing the Rubicon he found the Treasury empty, and one of his successful ways of replenishing it, was to levy a tax on marble columns.

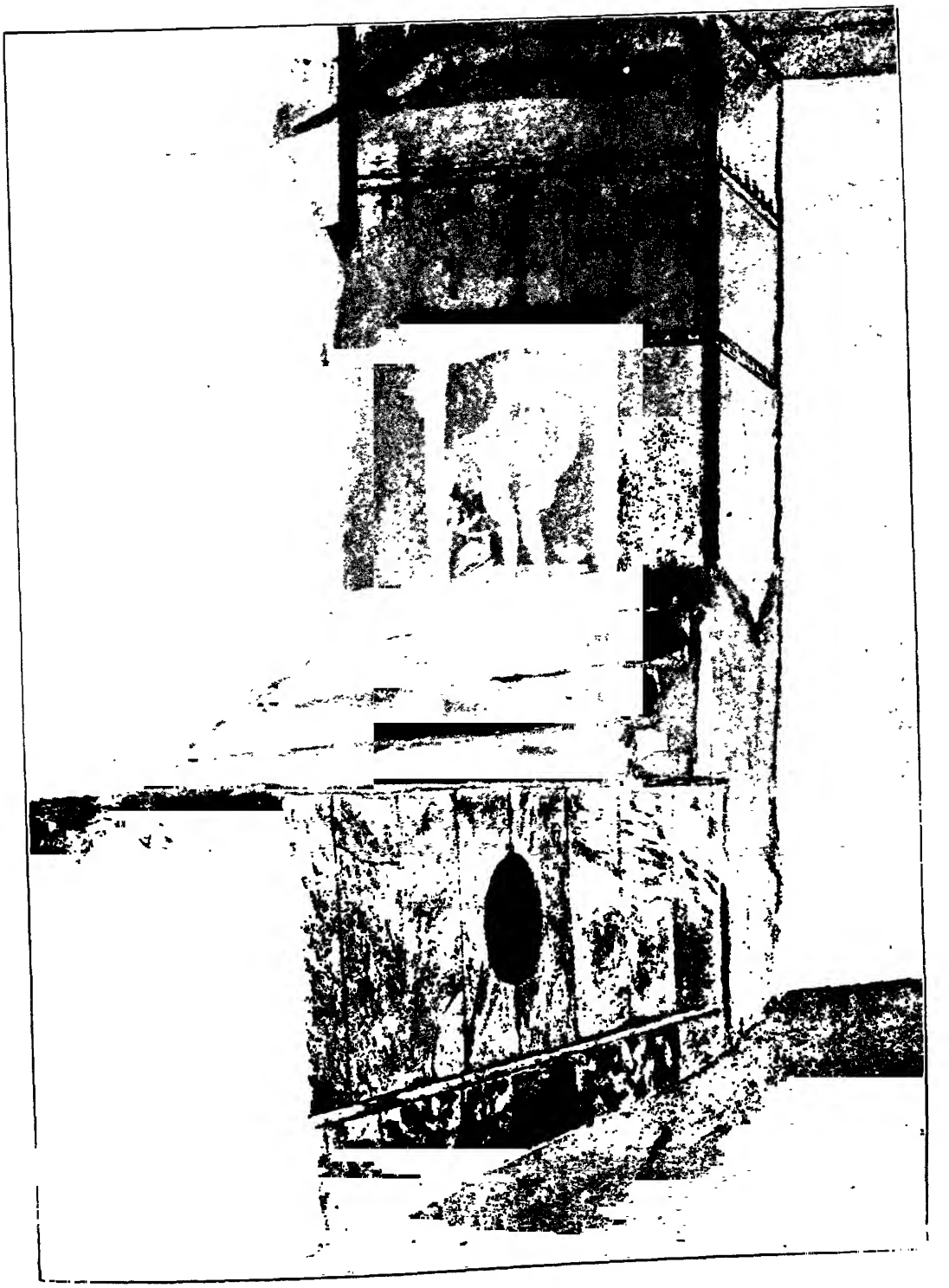
Mazois, who studied the ruins of Pompeii so thoroughly, and whose publication on that wonderful revelation of Roman civilisation is still a standard work on the subject, has written a book, *The Palace of Scaurus*, from which you must allow me to extract a few remarks to illustrate the luxury of marble in Rome at the end of the Republic.

Scaurus was a partisan of Sylla and had amassed a colossal fortune. His house, built at the foot of the Palatine, contained an atrium of which, according to Pliny, the roof was supported by columns of Lucullian marble, a black marble found in the island of Chio. These columns were thirty-eight feet high; no house in Rome possessed columns so high. About these columns Mazois tells us, when transporting them to the house, the architect passing through the Forum with them, a philosopher, a client of Scaurus, remarked loudly to the amusement of the bystanders, "Until when will the laws be silent and allow such precious marbles to be utilised in a private house, in the face of the clay gods that decorate the pediments of our temples?" the architect answering, "When you will cease eating the dormouse and the glands of pork at Scaurus's, notwithstanding the censorial laws forbidding it," brought the laughers to his side.

Of the reign of Augustus it was said that he had found a Rome of brick and had left a Rome of marble. Building was rife, and architecture went apace, and the influx of marble was accordingly very great. The principal buildings and monuments erected during that period were in the Campus Martius. The Marmorata, the landing-stage for the marble discovered to the south of Rome, could not answer the purpose, and so they built a landing-stage for marble near the Campus Martius, which was discovered when rectifying the course of the river some twenty years ago. According to Lanciani:—One hundred and sixty metres above the bridge of St. Angelo a landing-stage was discovered built of blocks of tufa put crossways, without the help of cement, and coated with an outside facing of Travertine, fourteen metres wide and five high, protruding into the river for a distance of twenty-six metres, at an angle of forty degrees to the main line of the direction of the stream. On each side of it was a spacious landing almost level with the water's edge, built of concrete and faced with a palisade of square beams of *Quercus Robur*, from six to eight metres long, fifty-five by fifty centimetres thick, and ending in a point with a protecting four-pronged cap of iron, the beams being dovetailed together. Sheets of lead four millimetres thick were nailed against the inner face of the palisade to make it watertight, a line of piles protecting it from the vessels.

The wealthy patricians and personal friends of Augustus, Cornelius Balbus, Marcius Philippus, Statillius Taurus, Vipsanius Agrippa, moved by his enterprise, covered the Campus Martius with colossal constructions during the twenty-two years from A.U. 721, which is the date of Agrippa's ædileship, to 743, which is the date of the erection of the Horologium, or sun-dial, one of the last works of Augustus. These five men raised nine porticoes, three theatres, one amphitheatre, fifteen temples, five public parks, thermæ, aqueducts, fountains, altars, mausolea, fora, a complete system of drainage, and a bridge across the Tiber.

When the Church of St. Apollinaris was modernised and disfigured in 1737–40, ruins and



SHOP COUNTER, POMPEII.
From a water-colour drawing by Miss Alma-Tadema.

inscriptions were discovered proving that there stood in olden times the Statio Rationis Marmorum, the central office for the administration of marble quarries, which were the private property of the Crown. Around this office, and on each side of the avenue connecting it with the above-mentioned landing-place, stone cutters and sculptors settled in large

SHOP COUNTERS, POMPEII.

numbers. When digging in those quarters one is sure to meet with remains of their workshops, the yellow crystalline sand to cut the marbles, and their tools and unfinished sculpture.

To judge from the unfinished statues of Dacian prisoners, of which several were found there, the sculptor's activity in this quarter must have ceased after Trajan, and perhaps it was then that the Marmorata to the south of the town was built, as the greater columns of the later period and the obelisks and other big pieces of marble could only be brought through the

bridges and bends of the river with great difficulty, if at all. In any case it was used much later, for the specimens of marbles found in that emporium are of later date.

It is said that porphyry and verde antico were only introduced under Heliogabalus. Granite columns appear already in the ruins of the Basilica Ulpia, where giallo antico was well represented in the steps leading up to it.

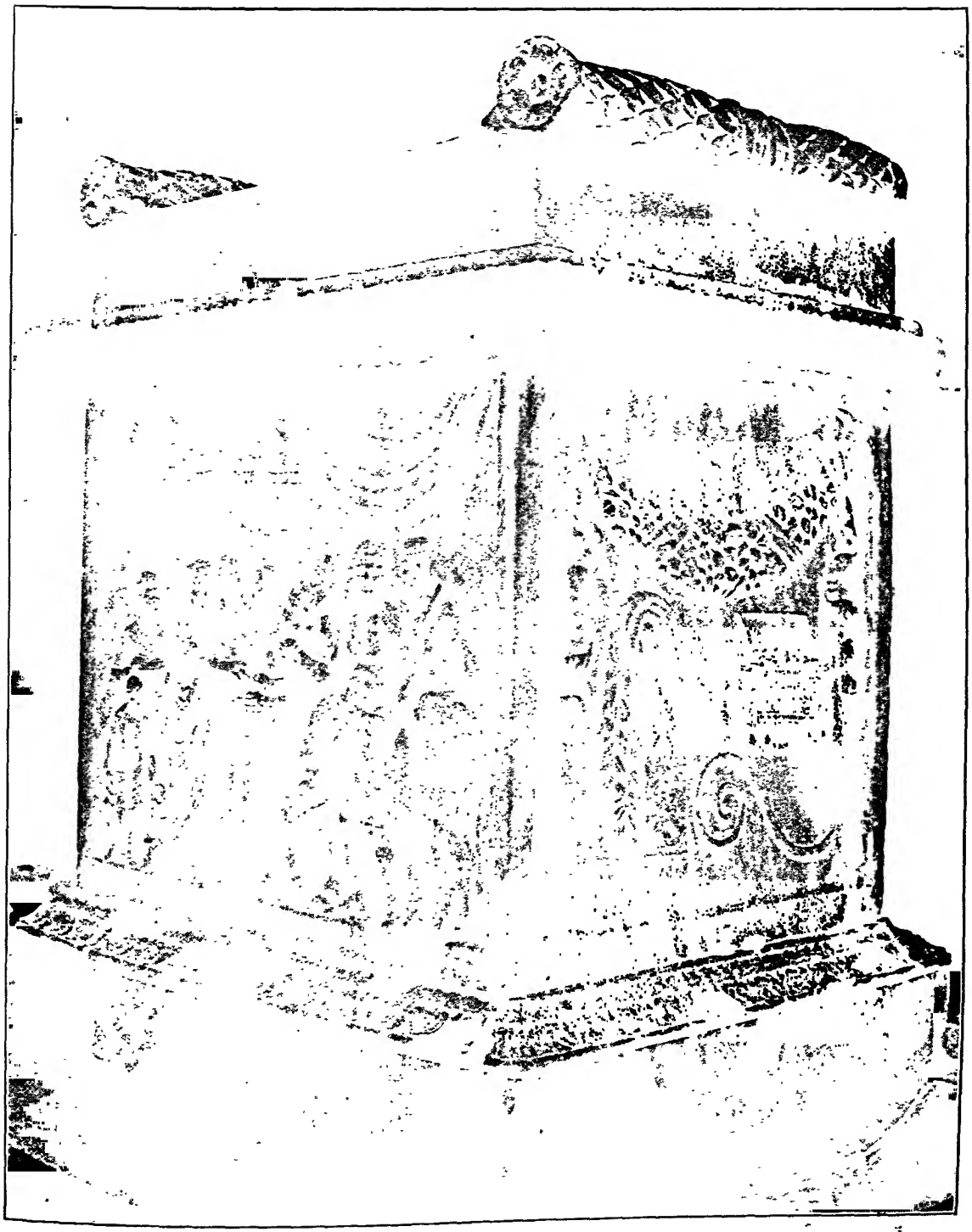
The Temple of Venus in the Forum of Julius Cæsar was in white marble, and so was the Temple of Venus and Rome built by Hadrian. They must have been rather blinding with

STEP INTO TABLINUM, POMPEII.

their gilt bronze roof tiling against the dark blue sky, and I can well sympathise with the later Romans wishing for more colour. The Greek and Etruscan temples were painted all over, and they were beautiful, I believe, for the alkaline colours were not yet invented. The builders of the Parthenon rejected all blocks of marble not purely white, for they intended to colour it all. The columns having their shafts, say yellow, that yellow had to be as pure and unstained as possible. The colour was, I believe, sunk into the surface, for an engraved line separated the different colours to prevent their running into one another, as can still be seen on some remnants of the moulding over the Panathenaic Frieze.

If now we compare their colouring with the coloured marble, we must admit that a column of giallo antico has greater charm than a column stained yellow without any play of colour; but then the exquisite research of refined form in Greek architecture could not allow the play of colour which in Roman architecture so often hides slovenliness of form, as does the play in coloured marble when used for mouldings.

A HOUSE ALTAR, POMPEII.



ALTAR, POMPEII.

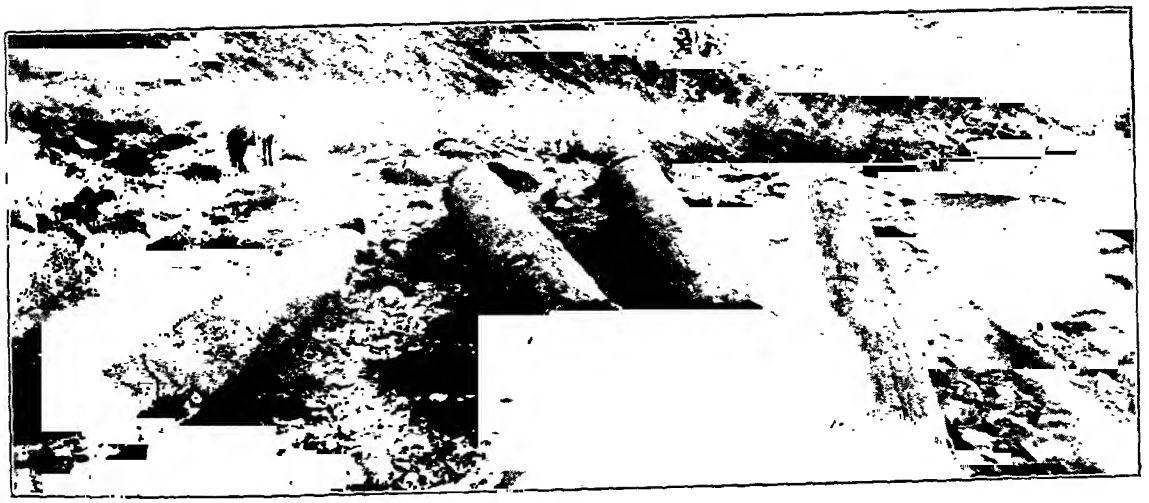
Marble found its highest development, perhaps, in Byzantine architecture, when painting was replaced by mosaic, and when colour reigned supreme; then the outside of the buildings had become severe and simple, and the richness of days gone by found its place in the interior.

In the best times of Roman architecture, those overwrought Corinthian capitals and cornices, with undercutting and overcarving, look more like lacework than architecture, and make us wonder. They are a marvel of workmanship, and must have come to value in the Italian sunshine; the white marble being transparent, the shadows became warmed by light as well as by reflection. Not so in London. Look at our Marble Arch!

Marble is beautiful stuff to deal with, and I am almost loath to praise it before English architects, and perhaps tempt them to try it in London, where the overcharged atmosphere forbids our making use of it for exteriors.

When used for interior work I know nothing finer, nothing more precious, nothing more wonderful, than a well-adjusted and well-disposed marble decoration. It is so clean and bright, so solid, and never harsh or unpleasant, provided it be applied by a man of taste.

ST. SERGIUS, CONSTANTINOPLE.



FINISHED COLUMNS LYING *in situ* AT CARYSTUS ON EDGE OF PRECIPICE 2,000 FEET HIGH.

II. THE MODERN ASPECT OF MARBLE-WORK IN ARCHITECTURE.

By Wm. Brindley, F.G.S., F.R.M.S.

TWENTY years ago I had the privilege and pleasure of reading before you in this room my first Paper on Marble; since then I have read here two others, in addition to various contributions to your Journal. This makes it somewhat difficult to avoid repeating something I may have said before; so I ask your indulgence should I accidentally do so.

The name "Marble" carries with it a fascination that few other words do; it holds the same position among stones that gold does amongst metals. The fractured appearance of a piece of white crystalline marble conveys an impression of value not possessed by any opaque stone, and its usefulness began with the earliest civilisation.

The archaic sculptures in the museum on the Acropolis of Athens, executed out of the finest Paros and delicately tinted, have a life-like effect. It is therefore no wonder that marble was adopted as the most useful material for the representations of the deities; and the same world-wide affection for it still continues, and as civilisation and wealth increase, so does the demand, as it is certainly now more extensively used than ever before.

All the old quarries of the Greeks and Romans, with only one exception, are now found and are being reworked. New marble rocks have been discovered and opened out in various parts of the world.

Quarrying is now carried on by improved methods, the chief one being by wire, sawing the blocks off the solid rock instead of the ruinous one of blasting.

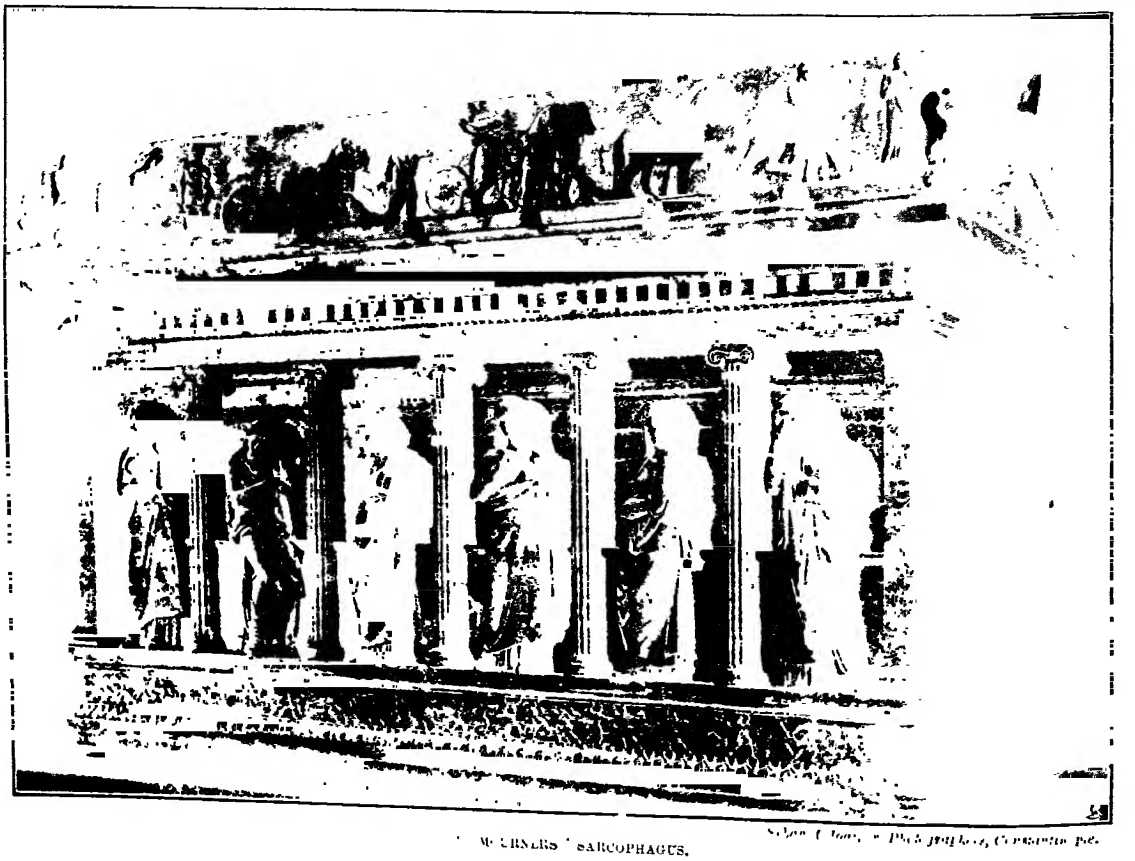
Manufactories of various sorts, with improved mechanical appliances for working marble, have increased. More workers of all kinds are being employed, and new uses for marble are constantly springing up. Further, I venture to think that our methods of using it have improved. This no doubt accounts for much of the general progress. But with all this advance, so far as this country is concerned, there is another side to look at, and that seriously, which is, that the bulk of the money spent here in this luxury goes to foreign manufacturers and workmen. After these introductory remarks a more detailed description may be acceptable.

To commence with Carrara, the quarry output of this district has enormously increased

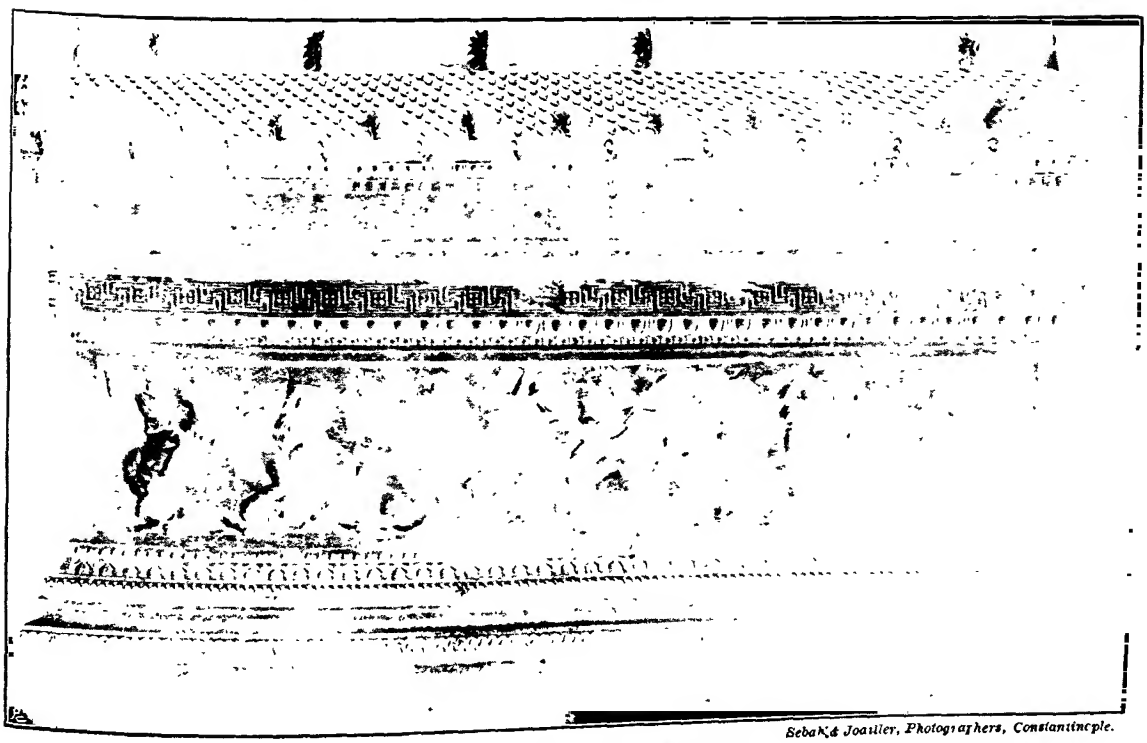
of late years, and worked material at a still greater rate. The whole of the marble-bearing rocks of the Apuan Alps, of which Carrara is the chief centre, have now been attacked, not only on the southern slopes, which grade to the railway and the sea, but also on the northern sides of the mountains, where there is no outlet for the produce except by long-distance circuitous routes either to the west by "Aulla" and railway to Spezia for shipment, or east by the Baths of Lucca, thence by railway to Leghorn. (This route through the valley from Lucca to Aulla is one of the grandest in North Italy and little known. There are villages with good churches. The watershed of the rivers on the way, Serchio and Magra, is crossed.) On this northern side additional costly roads have been constructed, some along edges of precipices, ascending to new quarries at very high altitudes. Not only are these mountain faces being hewn away, but the very summits, which are snowcapped a great part of the year, are being cut down. Some of them, as Mont Altissimo Sarravezza, possess the most costly and durable statuary marble known. In addition to all this enormous output of block material, mills and manufactories for sawing and working the marble have increased, and are still increasing, at even a faster rate than the quarrying.

Until a few years ago, all these mills were worked by water power obtained from a stream with not a great fall. These mills increased as long as any water power remained. Now large establishments are erected in the plains nearer the railway and the sea, worked by suction gas engines of Italian make, the coal for which it pays to import from England.

Quarry proprietors and manufacturers are making money, and workmen's wages have increased, I am told, in ratio. The produce of white marble at Carrara almost supplies the



MOURNERS' SARCOPHAGUS.

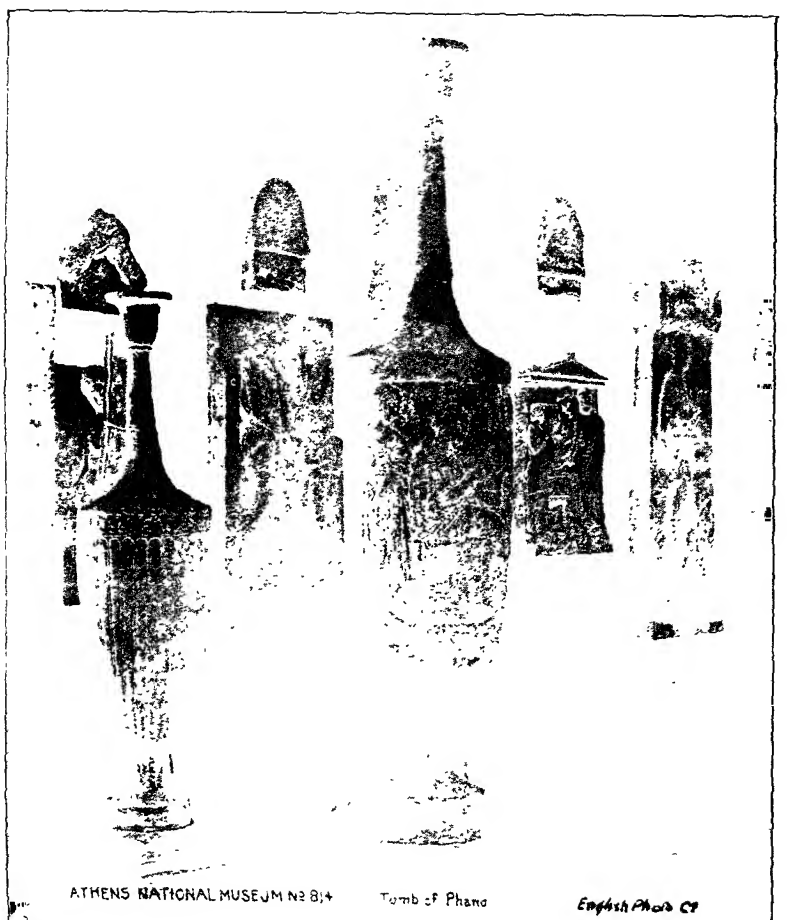


Sebah & Joaillier, Photographers, Constantinople.

THE SO-CALLED "ALEXANDER" SARCOPHAGUS.

civilised world, the greater portion of which goes to America. These same remarks as to progress in the Carrara districts apply to others, such as St. Ambrogio, Verona, the red and yellow marbles of which have been judiciously used in England of late years. Belgium, Germany, Austria, and Sweden and Norway have also advanced.

Greece also has improved. In Thessaly the ancient quarries of verde antico are turning out immense quantities of splendid sound material of every kind that is to be found in the old buildings of Rome and Constantinople.



ANCIENT MARBLE MONUMENTS (ATHENS NATIONAL MUSEUM). English Photo Co.

Of late years many important monoliths of verde antico have been quarried and used in England. At the present time blocks can be got as large as those used in St. Sophia, Constantinople. The whole of the blocks have sawn faces as cut direct from the solid rock by the aid of the wire saw. One square block I saw this last spring contained over four thousand feet cube.

The old Carystian quarries of Cipollino, on the island of Eubœa, have produced during the last few years over one hundred monoliths of large size: these have been used in important buildings in this country, Germany, and America. Shafts for columns can be obtained of practically any size.*

On the island of Scyros are a series of old quarries containing several varieties of red veined marbles: these are being reworked, and the marble is much in demand; some of it is very rich in colour, but unfortunately it is liable to be unsound.

There is a similar formation on the island of Salamis: it also is much shaken, probably by earthquakes.

At Mount Pentelikon, near Athens, on the southern face, are the old quarries of white marble from which the whole of the material was obtained for the classic buildings on the Acropolis and the Temple of Jupiter Olympus. The whole of the good veins, which descend into a deep cave in the mountain, appear to be worked out. There are a series of other

* The whites in this marble become with time a warm yellow, as seen in the examples shown in the room.

quarries on the same side of the mountain as the old workings: these have for many years been worked indifferently by the marble masons of Athens. The output is very little, but some is of good quality.* I had marble from these quarries twenty-five years ago. A few years ago a company was formed to work the marble on the north side of Pentelikon. For this purpose a railway has been constructed at great cost, and quarries have been opened. Much marble has been quarried, but the good vein of classic times on the south side has not yet been found. Large sizes are obtained, especially from the south base of Stamatovouni, an opposite mountain. Sawmills have been erected, fitted with good machinery; but as they have no water-power, coal has to be brought from England, and the sand for sawing from near Carrara. Two years ago I visited the Turkish island of Kos, near Rhodes, where there is a deposit of translucent oriental alabaster, with delicate chalcedony colour tintings. It can be quarried in large sizes, but the blocks contain holes. Small sizes can be got for vases, as used by the Greeks (for cremation sarcophagi). On the island of Samos are quarries of yellowish alabaster: this appears sound as seen in the steps on the "quay."

English Photo Co

AMAZON FROM EPIDAUROS (ATHENS NATIONAL MUSEUM).

The general appearance of the present Greek little resembles the classic figures in sculpture with which we are familiar; but their ability to work marble seems "to run in the blood," as they cut it with as much ease and freedom as masons here cut soft stone. You see them executing long fluted columns from blocks lying on the ground, with no more setting out than a circle described at each end. They are now equally good at quarrying. All this skill has been acquired within the last generation. The output of the quarries in France, Spain, and Algeria is not on the increase. The noblest coloured marble the world has ever known (imperial Egyptian porphyry of "Mons Porphyrites") remains unworked. I would gladly give any assistance in my power to anyone having an honest desire to rework these unique quarries. We know its value from what we see in Rome, and there is, as I have seen myself, any amount of material remaining, and it comes to the surface.

We have in this country many excellent marbles of various colours, as well as black and white. Of late years some of these have been used in important buildings in London and the country, producing admirable work. If it were not for foreign competition, with cheap labour

* These quarries produced the marble used in the Government buildings of the University, the Academy of Science, and other important buildings in Athens.

and low freights, against our high railway rates, no doubt many of the marble rocks that are now dormant would be worked to the advantage of the land proprietors and the workmen.

As ancient marble quarries continue to be rediscovered they prove unmistakably that the Romans used very few coloured marbles in the decoration of their important buildings. The confusing multiplicity of names given to fragments dug up in Rome, and renamed by enthusiastic collectors like Corsi and others fifty years ago, are entirely wrong and misleading. It is now proved that as many as a dozen examples have all

STELE (ATHENS NATIONAL MUSEUM).

STELE (ATHENS NATIONAL MUSEUM).

come out of one quarry. Small fragments are often very deceptive.

The same coloured marbles and porphyry that are found in Rome are also found at Ephesus, Carthage, and other Roman colonial cities. This shows the ability of the old Romans to move their choice materials, even when of large size, to distant parts of their empire.

Monolith marble shafts to columns were universally used by the Romans, and the use has continued down to the present time. The old shafts were all wrought in the quarries, even

the largest size, like those of the Temple of Antoninus and Faustina in the Forum of Rome. I recently found in one of my own quarries of cipollino at Styra a broken shaft seven feet in diameter. I think, perhaps, this is the largest known. It would work out at about fifty-six feet in length. Within the last few years a large number of coloured monoliths, extracted from at least eighteen different quarries in several countries, have been used in important buildings, chiefly by Fellows of this Institute. I doubt if since Roman times so many have been quarried and worked. At the present time there is little difficulty in getting them, and when selected and appropriately used as supporting columns they have the same impressive dignity as those remaining in Rome, Constantinople, and elsewhere. According to a very rough calculation, I consider there must be in Europe, North Africa, Egypt, and Asia Minor not less than ten thousand old Roman monoliths still existing, 3,500 of which are in Rome itself.

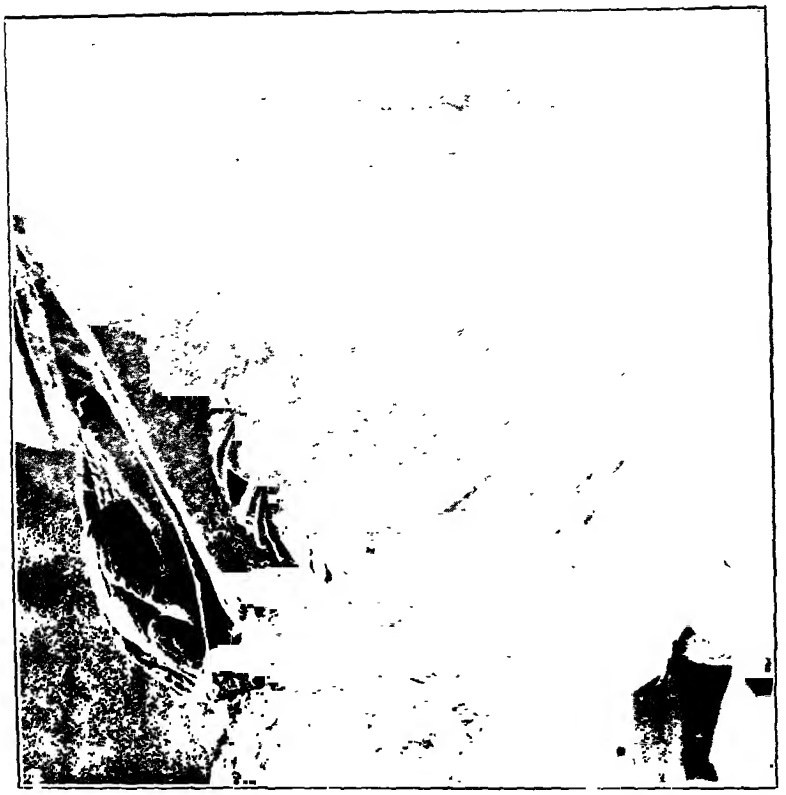
CRETAN STELE.

The sturdy shafts of the late Mr. Bentley in the new Westminster Cathedral are effective and quite equivalent to their cost. Fluting and reeding of a rich coloured shaft rarely pay for the additional effect obtained. Fluting is sometimes of use when a stone cannot be quarried the full length required and a joint has to be made. This is best done as seen in the giallo antico shafts of Trajan's Arch, now in the Arch of Constantine, Rome. The joint in this case is made one-third up, at the top of the reeds, which hide it.

Monoliths of rich marble used as architraves in large doorways or openings are always effective. The most imposing I know are those of the great entrance to St. Sophia, Constantinople: these are in verde antico. Those to the famous entrance of the Pantheon, Rome, are in white Greek marble. The monolith threshold in which the bronze doors work is Africano breccia. In the Pitti Palace in Florence the whole of the large doorways are in Rhondona breccia. Those of our National Gallery are rouge Etruscan, from near Chemora, Algeria. All these doorways mentioned are in three stones: two jambs and a head.

English Photo. Co.

STELE OF DIODORA FROM THESPIA.



BYZANTINE CAPITAL.

Where boldly figured marble is used the mason's horizontal joint sometimes destroys the continuance of the coloured pattern.

In a boldly moulded simple cipollino doorway to my own house I have mitre-jointed this with a notch at the back. For small works, like mouldings round panels in monuments fixed on a slab, I do not see that there can be any objection to mitre-jointing. The Italians often use it.

At the present time there is a desire by certain architects to erect in London important buildings in white marble. If cost is no consideration, there is no difficulty, for the marble would then be used as any good building stone. I doubt not, if the material is properly selected, that the work would be lasting.

If economy in building is desired, then the Italian method of built brickwork, with marble slab casing, is a good one. The slab for bond and surface need not be more than three inches thick, and even less will make good durable work by using ashlar courses, say, of twelve or fifteen inches high, slightly projected, over three-inch bond courses ; you then obtain similar effect to the walling of the Propylæa at Athens.

Another method for a good town house would be a brick building, faced in the style of the Palazzo Doria and other buildings in Genoa, where, along with the white marble facing, plaques of porphyry and colour are inserted in suitable white framings.

For marble work in London simple mouldings might be used, which would save cost. Small detail in a short time gets filled with soot. Marble buildings require occasional cleaning. It ought to be done with caution, as two or three methods now in use destroy the silicised surface, which is a preservative.

There is a cost difficulty in leaving our white marble work from the tool, as seen in all the Greek stele. Of all the marble buildings I know erected since classic times, none to me are more impressive than those of the duomo and baptistry of Pisa, and the duomo and churches of Lucca, where the marble is of a delicate translucent ivory tint, all left from the chisel. This gives quite a life-like effect as compared with our modern ground face work.

I have in previous Papers made some observations on different types of pavements. In Italy and the Netherlands we occasionally in pictures see pavements that have an honest look. In the Forum Romanum two mosaic ones in porphyry and marble have been recently unearthed.*

* Drawings of these, with others from Mr. Brindley's sketch-books, were shown at the Meeting.—Ed.

The black and white marble tiles formerly used for pavements were thick, with rough backs, the squared edges being only about half an inch. These were prepared out of the quarry waste. Of late years the demand has so increased that it now pays to manufacture them out of block slab. There is also now a considerable demand for tiles about a foot square, or greater, of verde antico, Greek cipollino, and breccias. A pattern made with either of these and white is effective.

A white tile floor of different shapes, forming a pattern by jointing only, always makes a quiet, effective floor; black also does the same.

Thin tiles of marble can be prepared for walls to be used for the same purpose as encaustic ones are now used, and fixed by ordinary workmen in the usual way. Stone staircases to dark offices would be improved by white risers of tiles or slips of marble.

Marble chimney-pieces continue to be designed according to the orthodox proportions of the size of the rooms, even when the intention is to insert in them slow combustion grates. The effect is that the narrow grate looks like an afterthought, and the remaining space has to be filled up with tiles, or something that goes with neither the chimney-piece nor the grate. This can be obviated by designing specially for the purpose and still retaining the desired width. Heat expansion of both the grate and the chimney-piece ought to be provided for. Metal, which expands when hot, goes back to its former size on cooling; but I find marble, when heat-expanded, only goes partially back.

A few years ago I was desirous of having a fireplace in the narrow hall of my own house, and this had to be fixed on a wood floor. To do this I placed a three-inch slab of marble, large enough to hold the chimney-piece and make a hearth. The opening was made a little larger than the grate it had to receive. For convenience I got a local man to fix it. Finding, as he thought, the opening too wide, he laboured away and narrowed the lintel; but my own work turned out just as bad, for, after a few fires, the jambs were pushed open, and the thick hearth had three radiating cracks in it from under the fire to the outside of the slab, but, like a fireclay back, the cracks go no further. More than twenty years ago Mr. Norman Shaw jointed his hearths, and that is the only way to make them stand the fire.

M. Zanian, Photographer

MOSQUE OF SULTAN BAYAZID, SHOWING VERDE ANTICO SHAFTS PROBABLY FROM THE CHURCH OF THE APOSTLES, CONSTANTINOPLE.

Until a few years ago marble fenders were made with ordinary curb sections, standing above the hearth as much as four inches, and four and a half wide. An infinitely better effect can be obtained, out of the same quantity of material, if the proportions are, say, six inches by three, with appropriate sections, with the bevelled moulding inward, in the same way as a picture frame is treated. This is far better than an outward bevel for looking down. With the bevelled moulding inward, the fender and hearth are seen at the same time, producing the effect of greater size. When the bevel is outward, the effect is not nearly so pleasing to the eye, for the hearth and fender then appear separate and distinct from each other.

Sebah & Joaillier, Photographers, Constantinople

MOSQUE OF KAKRIEH.

When it is desired to place a dog-grate in the fireplace opening, an elliptical curved plan is made with five or six inch vertical strips of white marble, the inner angles only slightly touching. This will resist the fire and reflect the heat like a "Dutch oven."

In all countries from the most remote times the best stone obtainable has been used to erect memorials to the dead. Thus the Egyptians used granite, basalt, and alabaster; and the Greeks marble. When we visit the ancient cemetery in Athens, and admire the old erect stele *in situ*, then move on to the National Museum and study the continuous rows of sculptured stele and sarcophagi, and if we are able to visit the museum in Constantinople and admire the so-called Alexander Sarcophagus and others brought from Sidon (Asia Minor), of refined architectural designs and sculpture, with delicate tinting, we may then seriously ask ourselves, "Is our nation ever likely to approach the same standard of perfection?" There is no doubt this was the zenith of sepulchral art. Good, well-thought-out work on the same lines continued to be executed in marble all through the Roman period, as seen in the museums of Rome and Europe generally, including our own.

With the late Byzantine work coloured marble sarcophagi of large size in imperial porphyry and verde antico, of good simple design, with some originality, came into vogue (some of these have been illustrated in a previous paper). During this period very little marble was quarried: what they required was usually obtained by the destruction of early work or blocks left in the ancient quarries.

With the advent of Renaissance art in Italy marble monuments of every kind again came into use. There were erected large memorials on the walls of churches, sculptured slabs on the floor, and unique small tablets in the cloisters, all delightfully lettered in

readable characters, full of interest, and as various in design as they are numerous, some with the introduction of colour that have not yet been surpassed. These bridge us over to Westminster Abbey, where in similar design and colour we have the shrine of Edward the Confessor and the tomb of Henry V. These are the first works in this country that show us the colour value of imperial porphyry.

In England at this time Purbeck marble was being used; and although a perishable stone numerous skilfully designed tombs and recumbent effigies are still in perfect preservation.

Our English Renaissance monuments have a character of their own. They are mostly executed out of Derbyshire alabaster and black marble, the effect being heightened with gold and colour. These are works of which we may be justly proud, and in contrast with modern work they certainly hold their own. In Germany, commencing with Basel and following the Rhine by Mayence and Cologne, then through Belgium and Holland, we find late Renaissance monuments of somewhat similar character to our own. They are generally executed in black or black and white marble. Many of these show originality in design, and are well worth studying.

Sebah & Joaillier, Photographers, Constantinople.

MOSQUE OF KAKRIEH.

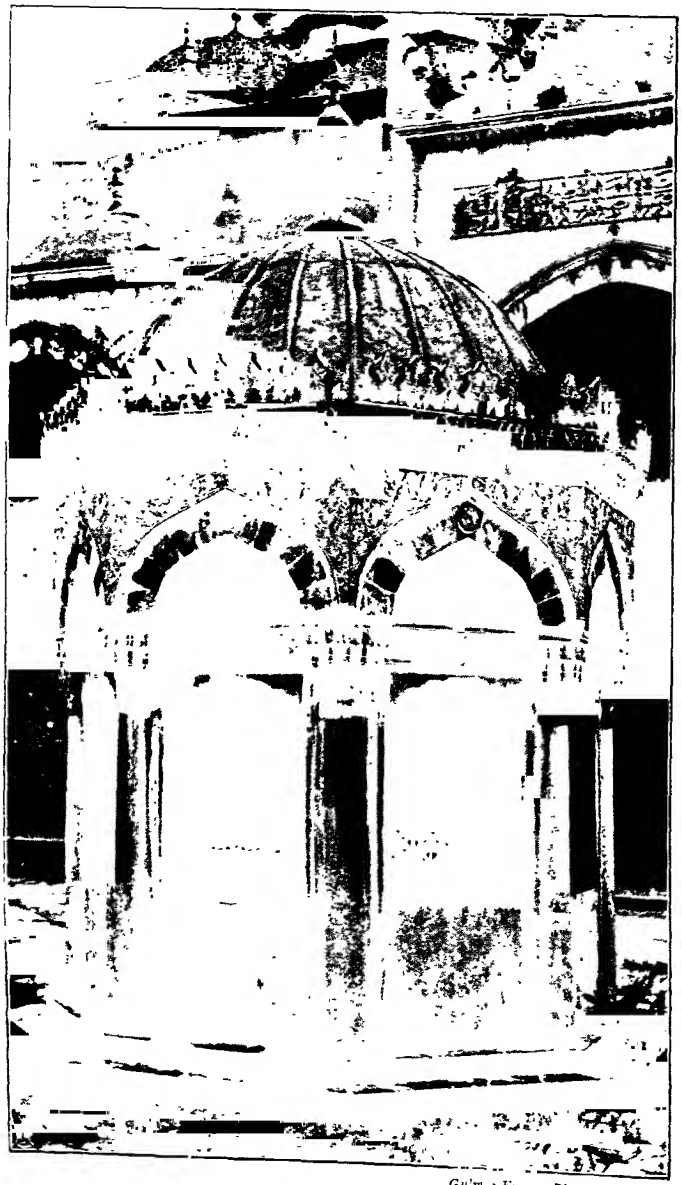
Of late years many good monuments have been designed by architects, and appropriately thought out to fit them unobtrusively for the buildings in which they have been placed. Many good men who are no longer with us, like the late John Sedding and Thomas Garner, have left us numbers of monuments equal to the old.

I am sorry to say this country imports annually thousands of tons of ready-made monuments in marble and granite for cemeteries and churchyards. The marble ones are nearly all made in Italy. There are probably not more than five in a hundred worth looking at. They are void of artistic character of any sort. I would put a tax on them, if only to prevent them contaminating public taste. They get into churchyards, destroying the individuality of the old local monuments and the old village mason.

The present advance in the use of marble as a decorative material for important buildings may be considered to have commenced about thirty-five years ago with the building of the Paris Grand Opera House, of which the late M. Garnier was the architect. The marble decoration of this edifice is still one of the sights of Paris. This work had considerable

influence on architects both of this country and of America. Many of the workmen came over here on the completion of the work; others went to New York and obtained employment on the various large buildings, such as hotels, insurance offices, and mansions, which have been erected regardless of cost.

At the same time men of enterprise in London saw openings for good hotels here which they erected, coloured marbles being freely used to make the buildings attractive. Architects realised its value and introduced it further into municipal buildings, banks, insurance and other offices, museums, town and country mansions, theatres, and every description of building of importance.



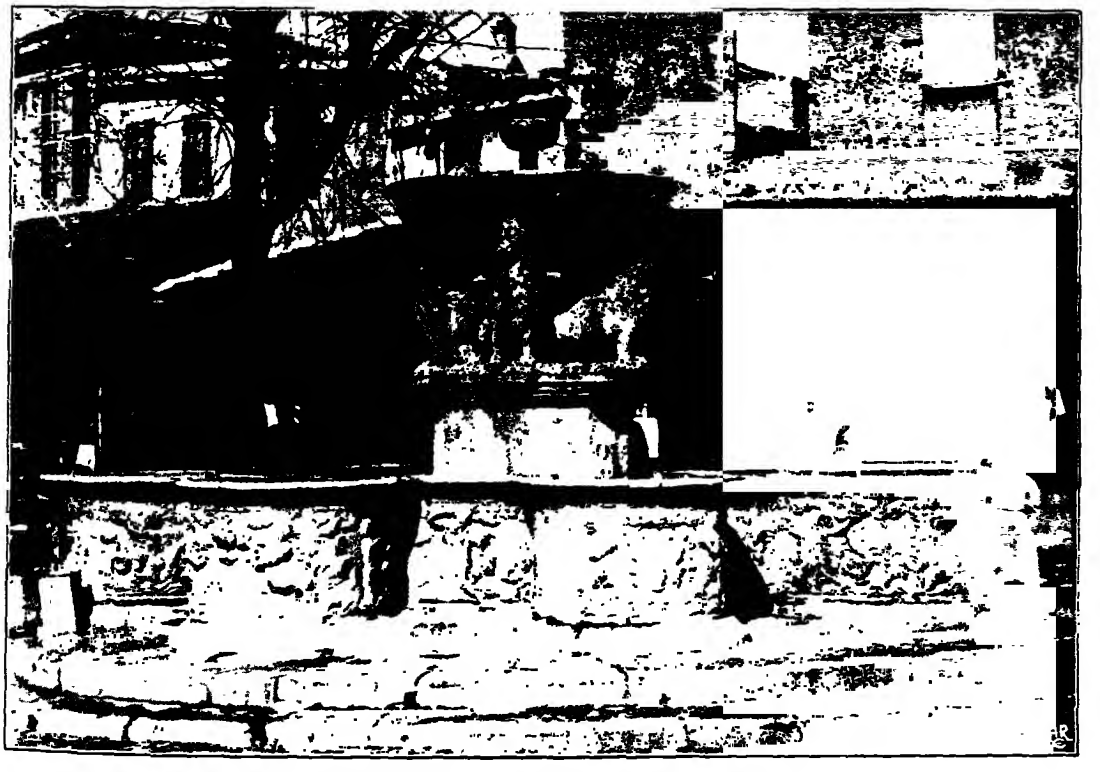
Gulmar Freres Photographers

FOUNTAIN IN COURT OF MOSQUE YENI-DJAMI.

Very little marble work was done in England previous to the introduction of workmen from Rome in 1268 to execute Edward the Confessor's shrine in Westminster Abbey, the mosaic pavement of the presbytery, and the tomb of Henry III. On the completion of these works the workmen would appear to have returned to Rome, or they may have been lent only by the Vatican to Henry III. for these special works.

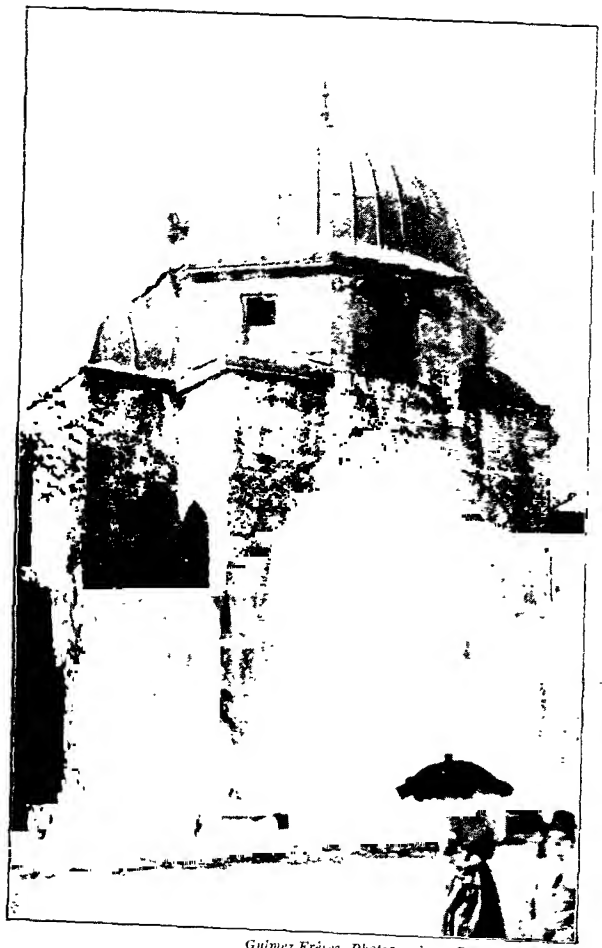
Our Early English masonry carvings and sculpture in Purbeck marble of this period stand out as unique. The history of the workers has yet to be written. The designs for capitals are original, and are executed with skill in a masterly manner. They well understood the use of the drill and the value of perforation in their carvings, which have not been surpassed.

Good work in Purbeck marble continued to be produced through the later architectural periods, and during the Gothic revival much of this marble has again been used for restoration and new work. It is difficult to say why Purbeck marble became so generally used throughout England, unless it was owing to its colour, which is a quiet neutral grey. When used, for instance, as continuous columns in a nave, this retiring colour would increase the effect of size rather than lessen it. The commercially convenient position of the rock for quarrying would also be in its favour. The



MARBLE FOUNTAIN, CANDIA (ABOUT EIGHTEEN FEET ACROSS).

RESERVOIR OF THE THOUSAND AND ONE COLUMNS, CONSTANTINOPLE.



Guinez Frères, Photographers, Constantinople.

CENTRAL GATE OF MOSQUE OF SULEIMANYEH.

marble beds are in the Purbeck formation and crop out in Durlston Bay, Swanage, which is delightfully sheltered, and has shelving rocks in the water from which sea craft could load. London from earliest times has been pitched and paved with Purbeck stone: the good beds of this formation produce one of the most durable stones found in England. The marble beds continue in the upland strata to near Corfe. From these numerous quarries it is an easy gradient to the sea at Swanage.

The marble used inland, as at Salisbury, would most likely be conveyed by pack mules, as is still done in countries where there are only natural roads.

Our English alabaster may safely be classed with marbles, although it is a sulphate of lime and not a carbonate. The quarries have been worked ever since the Norman period. It is a very useful material for interior decorative work, but it ought not to be used in any position where it is exposed to a heat of over 200 degrees Fahrenheit. It is especially adapted for the walls and operating rooms of hospitals, as it is not acted upon by ordinary acids.

From mediæval times until the present, it has been used extensively for sculpture, sepulchral monuments, and chimney-pieces. Much in past time has been shipped abroad. The quarries still produce good stuff for which there is a large demand. It has also been used in several important buildings in New York, U.S.A.

At Holkham Hall, Norfolk, there are, in the entrance hall I think it is, eighteen fluted monoliths, shafts about sixteen feet long, designed by Kent; and there are also a number at Kedleston Hall, Derbyshire, designed by the brothers Adam.

The famous Knossos in Crete, with its labyrinths, is built in a large crystalline gypsum alabaster, in appearance like rock salt. It was quarried and squared on an adjoining hill. Owing to its being covered up it is in good preservation. The burnt material produced the cement for fixing.

There is in the Ephesian Room at the British Museum a carved circular pedestal of similar alabaster. The Bulls from Nineveh are made of the same stone.

From Renaissance times the French, the Italians, and the Russians have always been workers in choice hard stones for decorative purposes in connection with architecture; but none of these nations produce work displaying ability equal to that of the Chinese, who work rock crystal, jade, amethyst, and the like in a wonderful manner. The skill they display in their designs of contrast—small work against broad—is truly remarkable, and if these people, like the Japanese, should ever begin to work, for the European market, objects suitable for use

n our houses, I doubt not they would produce something good. We ourselves in this country have never done much in this direction—the French and Germans at the present time are practically the only workers for Europe; but the work the Germans produce is generally of a very simple character.

There are a number of different-coloured marbles, of extra rich quality, which are mostly special beds in the rock mass. These, when opened out in two or four, produce panels which, like pictures, require framing. This is best done with a neutral contrast colour, or some quiet pattern marble of similar colour, either deeper or lighter in tone than the panel. What we have to guard against is destroying the wall space. If the stile framings are in strong contrast and deeply moulded, the panels have the effect of continuing underneath the stiles, unless a neutral strip surrounds the panel. If the frame is flush with the panel, this obviates the defect.

The beautiful church of Charlemagne at Aix-la-Chapelle, which is octagon in plan, with massive piers, has recently been cased with marble; and although archæologists may stand aghast at the idea, still it has been done, and exceptionally well done, for it is covered all over with slabs of light-coloured cipollino in the handsomest way imaginable. The slabs are simply fixed in front of the present wall with bronze studs, the whole being perfectly hollow, the stud-holes only going into the wall. The old piers are in no way injured.

The simple marble wall lining designed by Sir Lawrence Alma-Tadema for his own studio some years ago is one of the best I know. It consists of nothing more than straight figured upright slabs, not wide, of grey-green cipollino, cut across the bed, and fixed slightly out of the upright with a batter. This method of sloping inwards I saw recently at Pompeii. The same applies to the square pedestal altars in the Temple of Eleusis and others where they have a slight diminish upwards.

Sebah & Joaillier, Photographers, Constantinople
BYZANTINE (IMPERIAL OTTOMAN MUSEUM).

Our National Memorial to her late Majesty Queen Victoria, now in progress, and the Indian Memorial Hall at Calcutta, must give impetus to the use of marble in both countries. I consider that marble is now being used in architecture in a broader and more dignified manner than was generally done thirty years ago. We now only occasionally see work that is garish; but this may sometimes have its use as advertisement, or, what is better, showing us what to avoid. One of our drawbacks is that we have too many marbles from which to select; nearly all the marbles of the world

are brought into our markets. We have everything the Romans had, and in addition the produce of hundreds of modern quarries of every variety of colour.

In conclusion I will again repeat, the nearer we keep to working as the Romans did, with as few colours as possible, the healthier will be the effect obtained. I strongly advise young men to make notes of marble colour combination they see, not only of old work, but of new, if only to know what to avoid.

MARBLE TOMBSTONES, IN THE ASIATIC CEMETERY OF CONSTANTINOPLE.

*** See, with reference to the subjects treated in the foregoing Papers, TRANSACTIONS, Vol. III. N.S. (1887), pp. 45–56, "Marble: its Uses as suggested by the Past," with a list of the principal quarries worked in the time of the Romans, by W. Brindley; some Addenda by Dr. Edwin Freshfield [*H.A.*], and illustrations of marble pavements and wall decoration. See, further, TRANSACTIONS, Vol. IV. N.S. (1888), pp. 5–14, "The Ancient Quarries of Egypt; with an Account of a Recent Journey across the Eastern Desert," by W. Brindley, with illustrations of porphyry pavements and pulpits and wall mosaics in Coptic churches. References to marbles and marble ornament found in North Africa are given in the TRANSACTIONS, Vols. I. and II. N.S., in the Papers on the Roman Occupation of Algeria and Tunisia, by Mr. Alex. Graham, F.S.A., *Hon. Sec.* See also a series of Papers on "The Use and Abuse of Marble for Decorative Purposes," by Professor Aitchison, R.A. [*F.*], the late William Young, and W. Brindley [JOURNAL, 22nd April 1895]; Professor Aitchison's R.A. Lecture on Marble [JOURNAL, 17th Oct. 1903]; and "Santa Sophia, Constantinople," by W. Brindley [JOURNAL, 9th Dec. 1905].

DISCUSSION OF THE FOREGOING PAPERS.

The President, Mr. Thomas E. Collcutt, in the Chair.

Mr. J. J. BURNET [*F.*], A.R.S.A., who was called upon by the President, said he felt that it required one of far greater erudition than he to appreciate adequately what Sir Lawrence Alma-Tadema had made them enjoy, as well as the vast fund of information Mr. Brindley had given them on the various qualities of marble and the uses to which that material could be put. He pleaded second to none, however, in his affection for their great painter Sir Lawrence Alma-Tadema, and his power to give them the sentiment of marble and of marble work; and he believed Sir Lawrence could find no more sympathetic audience upon the subject than the one present in that room. He was proud to voice the feeling of the Meeting in thanking Sir Lawrence for coming among them that evening. From his (the speaker's) point of view as an architect, Sir Lawrence had only increased their burden of professional responsibility. He had called to their minds the vitality of the material for decorative purposes, and it seemed as though the architect would never cease to have heaped upon him responsibilities for decorative employment of materials and labour. Many architects present must have listened with profound agitation both to Sir Lawrence's delicate descriptions of marble work and to the enormous number Mr. Brindley had set before them of quarries of materials, and the uses to which such materials could be put. It was a very grave matter, indeed, for architects nowadays to have not only to consider the infinite variety of the needs of their clients; but if those needs were to be expressed with any poetry worthy of the name of architecture, the architect had also to include the study of an infinite variety of material capable of infinite treatment by an infinite number of machines, and by a great number of men each possibly consecrating his life to the better development of his own craft. He thought architects deserved great sympathy for the position in which they seemed to stand. He begged to move, and he was sure the Meeting would receive it with an enthusiasm which his efforts could not call forth, a vote of thanks to Sir Lawrence Alma-Tadema for his kindness in coming among them to speak on a subject which they knew he loved so much, and which he had taught them to love, and to Mr. Brindley for putting before them so many views of the life of the quarry and the variety of methods with which its material could be used.

Mr. HUGH STANNUS [*F.*], A.R.C.A., said he felt his utter unworthiness to speak on a subject which was so very large; but if he might venture to divide the treatment of marbles into two branches, he would say that, first, they might treat marble as being all of the same colour, in which case it would be merely considered as a finer kind of stone. Using marble in that manner reminded them of the architectural details in the past which had been made of monochrome marble, of that beautiful golden colour of the Pentelic marble, the Hymettan marble, with a bluish-grey tone; or the marble of Carrara being all of one colour was particularly suitable to work in for mouldings. As regards coloured marble, which is the most suitable for *flat* surfaces, *e.g.*, bands, styles, and panels, Nature herself had provided the decoration of the material. The beautiful colour (and the value of colour Sir Lawrence had spoken of that evening) and the wonderful varieties of colour did not need, and should not allow, decorative treatment to be applied. The remark that was made against fluting a variegated marble column had his entire sympathy. He felt how the flutes killed the variegation of the marble, and the variegation of the marble killed the flutes; so that the two militated against each other, and, as always happened in such cases, the result was bad art. Sir Lawrence had spoken about the manner in which the Romans used a marble veneer. This reminded him how very ingeniously this veneering was done in some of their temples, the mouldings being slightly bevelled, so as to hold the slabs in place. Sir Lawrence had spoken of the marble he had seen at Pompeii. All the Pompeian work seemed to him to be of the most shoddy description. There were imitations of marble *in paint*, but he had not seen a single slab of marble applied to a wall. He had not, however, looked with that exhaustive eye that Sir Lawrence brought to bear upon the work. He congratulated Mr. Brindley, and he might also say he congratulated the profession, on the manner in which Mr. Brindley had discovered the fine old quarries of the ancient world. It was a very observant remark Sir Lawrence had made, that in the Middle Ages people seemed to care so little for marble that actually the places where the marble was quarried were forgotten. It was only when a man had indomitable perseverance and great technical knowledge that he could hope for success in hunting these out. Mr. Brindley had done that; he had laid the riches of the coloured marbles at the feet of the architects; and it was for them to enter into possession. It had never been his good fortune to use very much marble, but he had always felt that in Mr. Brindley they had an advising friend who would give advice,

not only about the wearing, but the heat-standing qualities, without which, however beautiful marble might be, they as architects would be as children. Coming to the question of the use of coloured marbles would need a treatise on colour decoration —and at that late hour it was not desirable. He felt that the Papers that evening could be added to several other Papers that they had had the privilege of hearing there. He remembered in particular one very thoughtful Paper by the late Mr. John Seddon on colour decoration, in which he considered the question as to whether the constructive features should he made dark or light. Of course every architect in dealing with coloured marbles in his work had to consider that question: Should the constructive part be emphasised and the panelling be kept quiet, or should the constructive work be kept light in tone, but the panel be dark? But these were matters with regard to which every case had to be determined on its own merits. Recalling the remark in which it was said of Augustus that he found Rome brick and left it marble, he thought in the last twenty years they had seen a wonderful development of the use of marble in their theatres, their restaurants, and their public buildings—in the town-halls, for instance, that had sprung up in various parts of the country. Whereas in the old days there would have been wooden counters they had now marble counters, and where there would have been plastered columns they had now marble columns. And when one found there was that great demand for marble, and how the demand had brought the supply—he meant the supply of brains—that the architects, finding that they had to use marble, had studied the best means of using it—one could quote one town-hall after another where marble had been used to the satisfaction of the client and the great credit of the architect—then it was to men like Sir Lawrence Alma-Tadema, who had helped by his wonderful art to spread abroad the *taste* for marble, and also to men like Mr. Brindley, who had helped them to the *material*, that they were all indebted. He had very much pleasure in seconding the vote of thanks—to Sir Lawrence Alma-Tadema and to Mr. Brindley —for these two admirable Papers, which would improve as they read them, and he was quite certain that those who had to deal with the subject would lay them to heart and preserve them for reference.

Mr. ARTHUR H. REID [*F.*], whom the President introduced to the Meeting as *Hon. Sec. R.I.B.A.* for South Africa, and Past President of the Transvaal Institute of Architects, said he had great pleasure in supporting the vote of thanks to the lecturers; he would also take this opportunity of thanking the Institute for the pleasure it had afforded him to undertake the representation of the Institute in South Africa. It would be a very great pleasure to him to do what he could to further the interests of the Institute among the profession in that country. At the same time he would, on behalf of his brethren in South Africa, thank, not only the Institute which provided them, through these most interesting and edifying lectures, with refinements which they were rather cut off from by living so far away from the old country, but of thanking all those gentlemen who gave up their time and brains to preparing Papers for the edification of those who would read them in the Journal. He did not know whether members of the Institute ever thought about those who were labouring far away from home, or if they ever realised the amount of pleasure that the Proceedings which emanated from the Institute afforded to those who were so far away from the centre. But he could assure them that it was one of those things, as mails came in, that they, living in the Colonies, waited for and were ever looking forward to. Like his friend Mr. Burnet, he had been wondering why he, of all people, should have been called upon to support this Resolution; but on considering the matter he thought that a more appropriate person could hardly have been selected, for this reason: he came from a country where, beyond the arts of digging gold, making money, and importing slaves, they were credited with nothing. The architects of South Africa generally, so far as modern art went, claimed nothing beyond doing their duty as members of an art profession. Of course they had aboriginal art there, and it was a peculiar trait in South African history that of the only indication or relics of art to be found in South Africa the races which produced the art were absolutely extinct. He referred in the first place to the Zimbabwe ruins in Northern Rhodesia, and in the second place to those marvellous artists, the Bushmen. It was very strange that those Bushmen in their paintings should have selected the stony faces of caves to work upon, and few examples were found of their art applied to wood or textile fabrics. That fact fitted in very well with the two *stony* lectures of that evening, and perhaps accounted, unconsciously, for his being asked to support this vote of thanks, which he did with very great satisfaction.

The PRESIDENT, in putting the vote of thanks, said they had listened with very great pleasure to the Papers, and he was sure they should gather very much from what they had heard. There was one point that had not been touched upon at all in a practical way—viz., that they were using now a great deal of marble inside their buildings, and it was also proposed in some places that they should use it outside. In this connection the question of polishing was a material question that should be very deeply considered. It appeared to him that where they had used marble in the interior of buildings they had spoilt to some extent the beautiful qualities of the material by over-polishing. There were some marbles which he thought would look more

beautiful with a very slight polish, or even without any polish at all. It might be due perhaps to their clients, rather than to their own taste; but he felt sure that in the great majority of cases the marble lost by the high sort of French polish, spirit polish, that was put upon it. With regard to using marble for the outside of buildings, he thought they would stand a chance of losing much of their beauty if they were polished upon the exterior of buildings. He did not know whether the Meeting would be with him on this point, but in the use of Aberdeen grey granite, for instance, directly it was polished a sort of common appearance was given to the work; whereas if it was left at the fine sanded clean face, the material had a most delicate beautiful colour. Those were points which architects should consider in using marble. He could illustrate it by the use of Purbeck in the restoration of Salisbury Cathedral. In the old work he had no doubt that if there was any polish at all it was so slight that it would not tell very much in the colour; but now in the restored building the restored columns were perfectly black, and this against the grey stone was too great a contrast: the black columns seemed to hit one in the face altogether, and a great deal of the beauty of the building was lost through the strong contrast of the common colour that the Purbeck cast upon the work. He did not know, even if they had marble buildings in London, that they could improve upon the colour of the south front of Somerset House. After all, when Portland stone had been weathered, and had taken on the delicious grey tones of the front of Somerset House, he thought there were very few marbles for this climate, and for outside work, that could be superior to it in colour and general appearance.

SIR L. ALMA-TADEMA, in responding, said he could not tell them how gratified he felt that his little effort should have found so kind a reception, especially, as Mr. Reid had pointed out (a thing which one sometimes forgot), when in addressing the Institute one addressed the world of architecture. When they received the JOURNAL they sometimes forgot that their brethren and friends in South Africa, in Canada, in New Zealand, in Hong Kong, all over the world, received it also—and perhaps he might have been frightened at the thought of it! Still, there it was; they had accepted it kindly, and he thanked them for it. Might he be allowed one remark—as it arose perhaps more from his Paper than Mr. Brindley's—on the question of how far the tasteful use of marble was improved by over-polishing? It was more or less like pictures. Pictures over-varnished became ghastly; he had, in fact, mistaken over-polished marble for slate painted as marble. It looked like imitation. There must be a certain film to protect the marble—that was understood—because the difficulty of marble was that the different parts of it were not of the same density, and some parts absorbed more of the muck of the atmosphere than others; and as they sized a gilt frame in order to be able to wash the dirt off, so they ought to do something similar for the marble—but please, as little as possible!

MR. BRINDLEY, in responding, said he had to thank Sir Lawrence also for making a little speech for him and leaving him nothing to say. He should like to add, however, that he was quite with the President in regard to his remarks about marble polishing. They might go through the whole of the East and they would find very few things that were polished, and those with only an egg-shell "glimmer" polish. When they admired in their museums the great works of art they contained, it never occurred to them that they were not polished—they were perfectly satisfied with them. He had his own feelings about marble for London. They might put up whatever marble buildings they liked in London, but they would never make a St. Paul's.

MR. R. LANGTON COLE [*F.*], writing since the Meeting, says:—

I listened with great interest to the two Papers on this subject, and should like to point out, with all deference, that the use of marble, as we use it now, for purely decorative purposes is very much older than was suggested by Sir L. Alma-Tadema. He mentioned slabs, real and imitation, at Pompeii; but a dado of cement, painted to imitate a veined marble, was found at Knossos, the date of which is believed to be at least 1200 B.C. If marble could be imitated at that time, it must have been well known, so that the use of marble veneer must be placed earlier still, and is at least far older than the commencement of the civilisation of Greece or Rome.

9, Conduit Street, London, W., 26th Jan. 1907.

CHRONICLE.

THE PRIZES AND STUDENTSHIPS 1907.

Council's Deed of Award.

The Designs and Drawings submitted for the Institute Prizes and Studentships are now on exhibition in the Gallery of the Alpine Club (entrance in Mill Street, Conduit Street, W.). The Council's Deed of Award, read at the General Meeting of the 21st January, gives particulars of the competitions and the results thereof as follows:—

The Royal Institute Silver Medals.

(i.) *The Essay Medal and Twenty-five Guineas.*

Six Essays on "The Influence of the Use of Iron and Steel on Modern Architectural Design" were received for the Silver Medal under the following mottoes:—

1. "Autres temps autres mœurs."
2. "Dorus."
3. "Fonte."
4. "Press Onward."
5. "Sanctus Raymundus."
6. "Three Ages."

The Council have awarded the Medal and Twenty-five Guineas to the author of the Essay submitted under motto "Three Ages" [*Victor D. Horsburgh* [*A.*], 23 *Rutland Square, Edinburgh*], and a Certificate of Hon. Mention to the author of the Essay bearing the motto "Fonte" [*A. Halcrow Verstage* [*A.*], *Godalming.*]

(ii.) *The Measured Drawings Medal and £10 10s.*

Six sets of Drawings were sent in of the various buildings indicated, and under mottoes as follows:—

1. "Adze": 5 strainers (Trinity College Library, Cambridge).
2. Device of Heraldic Head of Horse: 5 strainers (Kirby Hall, Northants).
3. "Spero": 5 strainers (The Orangery, Kensington Palace).
4. "Swallow": 6 strainers (Stoke Castle, Shropshire).
5. "Thrums": 5 strainers (St. George's Church, Hanover Square).
6. "Waynflete": 6 strainers (Magdalen College, Oxford).

The Council regret that they are unable to award the Medal, but they have granted Certificates of Hon. Mention to the delineators of Magdalen College, Oxford, and Stoke Castle, Shropshire, submitted under the mottoes "Waynflete" [*R. Wynn Owen*, 60 *Castle Street, Liverpool*] and "Swallow" [*David Robertson, Huntley Terrace, Kelvinside, N. Glasgow*].

The Travelling Studentships.

(i.) *The Soane Medallion and £100.*

Fifteen designs for a Large City Hotel facing a Public Square were submitted under the following mottoes:—

1. "Applique": 6 strainers.
2. "A.T.": 9 strainers.
3. "Aero": 6 strainers.
4. "Cameo": 6 strainers.
5. "Cid": 7 strainers.
6. "Dentil": 7 strainers.
7. "I Parve": 7 strainers.
8. "Kokrel": 6 strainers.
9. "Novo": 7 strainers.
10. "Pan": 3 strainers.
11. "Pax": 7 strainers.
12. "Rush": 6 strainers.
13. "Silver Shield": 7 strainers.
14. "Simplex": 5 strainers.
15. "Urn": 4 strainers.

The Council have awarded the Medallion and (subject to the specified conditions) the sum of One Hundred Pounds to the author of the design bearing the motto "Cameo" [*Harold Cooper*, 21 *Oakley Crescent, Chelsea*] and Certificates of Hon. Mention and Ten Guineas to the authors of the designs bearing the mottoes "Simplex" [*Anthony R. Barker, Greenhill, Harrow*] and "Urn" [*A. J. Pitcher, "Launceston," Lindsey Road, Worcester Park.*]

(ii.) *The Owen Jones Studentship and £100.*

Two applications were received for the Owen Jones Studentship from the following:—

1. Robert Atkinson: 6 strainers.
2. Arthur R. H. Jackson: 6 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) the sum of One Hundred Pounds to *Mr. Arthur R. H. Jackson, Royal College of Art, South Kensington.*

(iii.) *The Pugin Studentship and £40.*

Three applications were received for the Pugin Studentship from the following:—

1. F. Townson Clark: 6 strainers.
2. A. J. Margetson: 6 strainers.
3. Wilfrid I. Travers: 6 strainers.

The Council have awarded the Medal and (subject to the specified conditions) the sum of Forty Pounds to *Mr. A. J. Margetson*, 1 *Gordon Road, Handsworth, Birmingham.*

(iv.) *The Godwin Medal and £65.*

One application only was received for the Godwin Bursary—viz., from Mr. E. J. Kay. The

Council regret that they are unable to award the Bursary for this year.

(v.) *The Tite Certificate and £30.*

Twenty-one Designs for a Loggia for Sculpture to screen the Blank End (150 feet long) of a building were submitted under the following mottoes:—

1. "Altiora Petamus": 3 strainers.
2. "Crown": 4 strainers.
3. "Cheiro": 4 strainers.
4. "Delta": 4 strainers.
5. "Ecclesiastes": 4 strainers.
6. "Forced Draught": 4 strainers.
7. "Gradus": 3 strainers.
8. "Heart-easing Mirth": 5 strainers.
9. "Hermit": 4 strainers.
10. "Ionicus": 3 strainers.
11. Device of a Wreath: 3 strainers.
12. "Meg": 6 strainers.
13. "Nisi": 5 strainers.
14. "Orne": 3 strainers.
15. "Robinson Crusoe": 3 strainers.
16. "Si jeunesse savait: si vieillesse pouvait": 4 strainers.
17. "Spread Eagle": 3 strainers.
18. "Valhalla": 4 strainers.
19. "Vincit qui patitur": 3 strainers.
20. "Vita": 3 strainers.
21. "Vignola": 5 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) a sum of Thirty Pounds (which will this year be augmented by the sum of £20 from the funds of the Wimperis Bursary on the condition that the period of travel be extended from four to six weeks) to the author of the design bearing the motto "Vignola" [*G. Salway Nicol* [*A.*], *King's Court*, 117 *Colmore Row, Birmingham*], and a Certificate of Hon. Mention and £10 10*s.* to the author of the design under motto "Nisi" [*P. Napier Hemy, Hampden House, Phœnix Street, N.W.*].

THE ARTHUR CATES PRIZE: £40.

Applications for the Arthur Cates Prize were received from the following:—

1. W. W. J. Calthrop: 6 strainers.
2. Frank Dyer: 6 strainers.
3. W. Dathy Quirke: 6 strainers.

The Council have awarded the Prize to *Mr. W. W. J. Calthrop*, 41 *Doughty Street, W.C.*

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Gold Medal and £10 10s.

Four designs for a Grand Stand constructed of Timber on a Race-course were submitted under the following mottoes:—

1. "Hurst Park": 4 strainers.
2. "Royal Ascot": 3 strainers.
3. "Sceptre": 4 strainers.
4. "Video": 5 strainers.

The Council have awarded the Medal and Ten Guineas (with an additional £10 10*s.* from the funds of the Wimperis Bursary) to the author of the design bearing the motto "Royal Ascot" [*W. A. Mellon*, 3 *Great College Street, Westminster, S.W.*].

THE ASHPITEL PRIZE 1906.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize (Books value £10) to *Mr. James Theodore Halliday, Hawthorn House, Wellington Road South, Southport*, who was registered *Probationer* in 1901, *Student* in 1903, and passed the Final Examination in December 1906.

THE TRAVELLING STUDENTS' WORK.

Godwin Bursary 1906.—The Council have approved the Report of Mr. H. Inigo Triggs [*A.*], who was awarded the Godwin Bursary 1906, and who travelled in Paris, Berlin, Vienna, and Munich.

Pugin Studentship 1906.—The Council have approved the work of Mr. G. Drysdale, who was elected Pugin Student for 1906, and who travelled in Kent and Sussex.

The Deed of Award bears date 21st January 1907, and is signed by Thos. E. Collcutt, *Chairman*; Ernest George, Edwin T. Hall, John Jas. Burnet, *Members of Council*; Alexander Graham, *Hon. Secretary*; W. J. Locke, *Secretary*.

The American Institute of Architects: Presentation to Sir Aston Webb, R.A.

American papers now to hand give details of the functions, business and festive, held in Washington to celebrate the fiftieth anniversary of the foundation of the American Institute of Architects. To signalise the event the American Institute had founded a Gold Medal, the intention being, in the words of the President, Mr. F. M. Day, "to mark distinguished achievements in architecture wherever found." That the first to receive this distinction should be an Englishman is an honour of which his countrymen the world over are very legitimately proud; and it is especially gratifying to members of the Institute that the distinction should have fallen to their Past President, Sir Aston Webb.

Sir Aston crossed the Atlantic about Christmastide to receive in person the honour destined for him, and at the same time to represent the R.I.B.A. at the American celebrations. In the latter capacity he was the bearer of the following message from the President and Council:—

To the President,
The American Institute of Architects,—

SIR,—We, the Council of the Royal Institute of British Architects, have the honour to request you to convey to the American Institute of Architects our warm congratulations on the occasion of the fiftieth anniversary of its foundation.

We felicitate you from our hearts, not only on account of our brotherhood in the great art which

it is the precious privilege of our respective institutions to foster, but also on account of our kinship in race and language, which makes us take a special interest in the contemporary architecture of your great country and in its glorious future which the American Institute of Architects will have so large a share in moulding.—We have the honour to be, Sir, on behalf of the Council,

Yours sincerely and confraternally,
T. E. COLLCUTT, *President.*
HENRY T. HARE, *Member of Council.*
JAMES S. GIBSON, *Member of Council.*
ALEXANDER GRAHAM, *Hon. Secretary.*
W. J. LOCKE, *Secretary.*

The presentation to Sir Aston Webb was made before a brilliant assembly at Corcoran Art Gallery on the 8th inst., and at the subsequent banquet given by the American Institute, which was attended by Mr. Elihu Root, Secretary of State, various members of the American Senate, and other distinguished guests, the following letter on behalf of the King from Lord Knollys, addressed to Sir Mortimer Durand, the then British Ambassador to the United States, was read by the President of the American Institute:—

"DEAR SIR MORTIMER,—Sir Aston Webb has just started for Washington to receive there the Gold Medal which the American Institute of Architects has lately instituted. The King would be glad if you would have the goodness to explain to the President of the Institute His Majesty's satisfaction at having their first Medal presented to an Englishman, and to one of such professional repute as Sir Aston Webb.

"The King would be glad if you would add that he wishes every success to the Institute.—Believe me, yours sincerely,

KNOLLYS."

A letter from President Roosevelt was read as follows:—

"I wish I could be present at the dinner of the American Institute of Architects this evening, but as I already have two engagements I regret that it will be impossible for me to attend. I fully appreciate the significance of the occasion and the honour which the Institute has conferred upon Sir Aston Webb. Will you extend my hearty congratulations and best wishes to the distinguished recipient of the medal and to the American Institute of Architects?"

The following is an extract from the Address delivered by Mr. F. M. Day on the occasion of the presentation:—

"The American Institute of Architects establishes upon this the fiftieth anniversary of its foundation a Medal the intention of which is to mark distinguished achievements in architecture wherever found. To you, Sir Aston Webb, it will be our privilege to-night to give this Medal, and we are gathered here to signalise not merely by that token, but by our presence, the admiration that we feel for your works and the respect that we entertain for your career.

"That this Medal should first be given to an Englishman needs little explanation. A reasonable modesty might well constrain us to look beyond our own borders, and it is but natural that our thoughts should centre on that land with which, more than with any other, we are united by ties of race and thought.

"We received from you the traditions of Inigo Jones and Sir Christopher Wren, traditions that gave vitality and character to our colonial buildings, and at a later time the Classical revival that swept over Europe reached us directly from its English source. William Thornton, who designed the Octagon, he who stamped a definite and noble character upon the nation's Capitol—Thornton, no less than his patron Thomas Jefferson, gained his knowledge of classic architecture from those studies of it in which your countrymen were pioneers.

"It is from among men such as these that we have chosen you, Sir, a younger but no less distinguished man to confer upon you an honour which we shall, perhaps, not frequently award; and, therefore, and because an ancient custom sanctions it, I am to recount in good set terms the reasons that have moved us to choose you as our Medallist.

"In the midst of these large affairs you have not neglected to perform a labour of love in the restoration of ancient edifices, as at the fine old Norman church of St. Bartholomew the Great, the oldest church in London, which for well-nigh thirty years has been within your charge, and which you have rescued from neglect and ruin, and wisely rehabilitated.

"That your talents have not been unrecognised by your countrymen is shown by the volume of your works, by the honour of knighthood conferred upon you by the King, and most of all by your election as a Royal Academician.

"And now, Sir, because you have these qualities, and because for a lifetime you have dedicated them with signal success to the service of your profession, the American Institute of Architects confers upon you its Medal for distinguished achievement."

Sir Aston Webb, in the course of his response, briefly sketched the history of architectural design in England, and eulogised the work of American architects, speaking of the splendid architectural achievements he had seen and admired in Washington, Philadelphia, and New York during the few days he had been in the country. Thanking the American Institute for the honour he had received at their hands, he said it was beyond his power to express adequately the grateful appreciation that he felt, and that he believed his brother architects at home would feel, at the great honour the American Institute had been pleased to confer

upon English architects through so unworthy a representative as himself; for he could not but recognise in the award the desire to honour English architects generally, from which stock he was proud to think that American architects had sprung. There was much in their architecture that was familiar to an Englishman arriving in the country, and there was much that was unfamiliar, and therein, he thought, lay the charm.

Sir Aston and Lady Webb have since visited Boston and other cities of the United States, and appear everywhere to have met with a really royal reception. They sailed for England on the 19th inst.

The Papers on Marbles.

The Papers on Marbles last Monday attracted an exceptionally large audience, the Meeting-room being full to overflowing. Sir L. Alma-Tadema, the author of the first Paper, lent for exhibition an interesting series of photographs and drawings of interiors, showing marbles and painted imitations of marbles, at Pompeii. The gifted artist himself is seen in the photograph on p. 170 in a stooping posture measuring part of a wall in the House of Sallustius at Pompeii. The photograph was taken about twenty-five years ago. A large number of photographs and drawings, together with specimens of the following marbles, rough and wrought, were kindly lent by Mr. Brindley, and formed an extremely interesting exhibit.

Whites.—Statuaires and ordinary whites of Greece, Italy, Sweden, Norway, Spain, Turkey, and India.
Blacks.—English and Irish, Greek, Italian, Belgian.
Reds.—Greece, Italy, France, Spain, Belgium, Austria, Devonshire.
Greens.—Greek, Italian, French, Spanish, American and Indian, English and Greek Cipollinos.
Yellows.—Tunis, Algeria, Spain, France, Greek Islands.
Alabaster, Oriental.—Asia Minor, Egypt, Italy, Spain.
Alabaster, Ordinary.—Derbyshire, Staffordshire, Cumberland.
Onyx.—Mexico, Arizona (U.S.), Algeria, Tunis, Egypt.
Porphyry.—Egypt, Greece.
Rare Stones.—Chinese Jade (thirty wrought specimens) and New Zealand Avanturine, Lapis Lazzuli, Canadian Blue, Jaspers, &c.

The London County Hall Competition.

At the weekly meeting of the London County Council the following report of the Establishment Committee was considered, and the recommendation contained therein agreed to:—

"We have given further consideration to the question of the time to be allowed for the competitions for designs for the new County Hall, and have considered a letter from the Royal Institute of British Architects, which suggests that nine months should be allowed, six of which should be devoted to the preliminary part of the competition. The time which it was originally proposed should be allowed was eight months, four months to be devoted to each part; but we think the Council will be well advised to allow the additional month suggested, and we have accordingly requested our chairman to ask leave of the Council to make the necessary alterations in the conditions when the same are under consideration by the Council.

"We propose that, in accordance with the practice which we understand usually obtains, a fee should be charged for copies of the conditions and particulars, &c., issued to intending competitors in connection with the competition for designs for the new County Hall, and we think that a fee of £3. 3*s*. in this instance will be suitable. This fee will be returned on receipt of a *bona fide* design, or if on receipt of the conditions any architect decides not to compete and returns the conditions, &c., within two weeks. We recommend that a charge of £3. 3*s*. be made for each copy of the conditions, &c., supplied to architects desiring to compete in the preliminary stage of the competition, the fee to be refunded on the receipt of a *bona fide* design, or if on receipt of the conditions any architect decides not to compete and returns the conditions, &c., within two weeks."

Mr. Edwin T. Hall [*F.*] sends the following correction:—"At page 155 of the last JOURNAL I am reported as saying that one of the Assessors in this competition was nominated by the County Council and one by the Institute. This is inaccurate. What I said was that the Institute had suggested that Mr. Riley should be one of the Assessors."

The late Colonel Lenox Prendergast [*H.A.*].

Colonel Lenox Prendergast [*H.A.*] died at his residence in Thurloe Square on Saturday, the 19th inst., at the age of seventy-six. Formal announcement of the sad event was conveyed to members by the Hon. Secretary, Mr. Alexander Graham, F.S.A., at the General Meeting last Monday in the following terms:—"I am sure that every member of this Institute who noticed the announcement in *The Times* and other papers this morning of the decease of Colonel Lenox Prendergast must have felt that we had lost an old friend and a very kind and sincere well-wisher of this Institute. Elected an Honorary Associate as far back as 1878, Colonel Prendergast always evinced a lively interest in the concerns of the Institute, and when our Standing Committees were formed he was one of the first members appointed by the Council to take an active part in the work of the Literature Committee. Since that time, now nearly twenty years ago, Colonel Prendergast had been almost continuously a member of that Committee, giving constant evidence of his knowledge of and love for architecture, and his desire to extend the usefulness of the Institute Library, especially in works relating to Italian art, of which he was an earnest student. In attending the meetings in this room Colonel Prendergast not only showed appreciation of our art and work, but he was always ready to take an active part in discussion on matters in which he was well versed

and competent to speak upon. I think, therefore, in sending a letter of condolence to Mrs. Prendergast and the family we should express our full appreciation of the interest Colonel Prendergast took in our proceedings, and of his endeavour, at all times and wherever he was, to encourage the study of architecture as one of the Fine Arts."

Colonel Prendergast served with the Royal Scots Greys in the Crimean campaign. He was present at the affair at McKenzie's Farm, and was severely wounded in the foot at the battle of Balaclava. Returning to duty before the fall of Sebastopol, he received the war medal with two clasps and the Turkish decoration. Colonel Prendergast retired from the Army in 1881. He was a J.P. for Middlesex and London, and was a member of the School Board for London for some years from 1879.

Colonel Prendergast will be deeply lamented by the Literature Committee. He rarely missed its meetings, took a keen interest in the selection of books to be purchased for the Library, and warmly supported every proposal for the extension of the Loan Library. He occasionally reviewed books in the JOURNAL, and contributed to the Transactions of the Institute a Paper on "The Cathedral of Palma Majorca," read at a General Meeting in February 1893 [published in JOURNAL R.I.B.A., 8th June 1893].

Modern Town Halls of France.

The Series of Papers on "The Modern Town Halls of France: their Planning, Decoration, and Equipment," by Mr. Fredk. R. Hiorns [A.], will be continued in the JOURNAL for the 9th February, and will conclude in the following number. The two remaining Papers deal with the Hôtel de Ville de Sens (Yvonne) and the Hôtel de Ville de Tours. Some reproductions to a large scale of some interesting examples of working drawings as executed by French architects will appear with the account of the Sens building in the next number. The series began in the JOURNAL for 8th December last.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1906-07, held Monday, 21st January 1907, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair, 160 members, including Fellows, Associates, Hon. Associates, and Members of the Council, besides numerous visitors: the Minutes of the Meeting held 7th January [pp. 163, 164] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Colonel Lenox Prendergast [*H.A.*], and it was resolved that a letter of sympathy and condolence be sent to Mrs. Prendergast and family, and that the letter should contain an expression of the appreciation of members for the interest Colonel Prendergast had always taken in the proceedings of the Institute, and of his endeavour at all times to encourage the study of architecture as one of the Fine Arts.

The following members attending for the first time since their election were formally admitted by the President—viz., Robert Allsebrooke Hinds, William Cooper, Arthur Rutherford Jemmett, *Fellows*; Sydney Searle, Wilfred Irwin Travers, Owen Hanworth Cockrill, Harry Arnold Rowbotham, Francis Henry Fitzgerald, Stanley Churchill Ramsey, William Wellesley James Calthrop, Ewart G. Walker, John Parlett, *Associates*.

Papers on MARBLES: THEIR ANCIENT AND MODERN APPLICATION were read and illustrated by Sir L. Alma-Tadema, O.M., R.A. [*H.F.*], and Mr. William Brindley; and upon the motion of Mr. J. J. Burnet [*F.*], A.R.S.A., seconded by Mr. Hugh Stannus [*F.*], A.R.C.A., a vote of thanks was passed to the authors by acclamation and briefly responded to.

The Secretary having read the Deed of Award of Prizes and Studentships 1907 made by the Council under the Common Seal [*ante*, p. 200], the sealed envelopes bearing the mottoes of successful competitors were opened and the names disclosed.

The proceedings were brought to a close at 10 p.m.

REVIEWS.

MODERN SCHOOL BUILDINGS.

Modern School Buildings, Elementary and Secondary. A Treatise on the Planning, Arrangement, and Fitting of Day and Boarding Schools. By Felix Clay, B.A., Architect. Second Edition, Revised and Enlarged. With 450 illustrations, comprising Plans of 95 Schools, &c. La. 8o. [*B. T. Batsford, 94 High Holborn.*]

Some apology is due for this delayed notice of Mr. Clay's second edition of his admirable volume on School Buildings, which calls for more than the passing acknowledgment of a few lines. That the call has come within about five years alone bespeaks its recognised value as a text-book, and the accomplishment of a want. The intervening period of time has been spent in revision, and much new matter has been added, especially in regard to elementary education, which was purposely somewhat lightly treated in the first edition. Besides this, the first part, dealing with secondary education, has been fully entered into with commendable clearness in regard to the organisation of the teaching, and the housing of the scholars. It is pleasant to call attention to the valuable comparative treatments exhibited in the form of small plans of schools in other countries. These most interesting pages elucidate the fact that we are alone in our adoption of the central-hall plan. Country schools receive at Mr. Clay's hands full consideration, and the architect will find much useful and authoritative information to guide him in the technicalities of planning these buildings.

Many excellent plans of recent senior schools are also shown, which demonstrate more than ever that school design is becoming a highly specialised branch of the profession. Particular attention should be called to the very admirable planning and pleasant treatment by Mr. Leonard Stokes in his Lincoln Grammar School, and also to Mr. Arnold Mitchell's great public school attached to University College now in course of erection at Hampstead, both these works being marked by admirable thought combined with strong characteristic treatment.

We are impressed by this engrossing and inexhaustible subject both in interest and matter, and enclosed in a too heavy volume, which is truly hard to bear with by its material bulk as a text-book. We have little doubt but that a third edition will be called for, and this we trust will appear in two-volume form, which will aid classification.

Mr. Clay has had, no doubt, difficulty in dealing with the great mass of material to hand, which leads us to miss any mention of an important large one-story school planned upon the corridor *motif*. This is a commendable type when one is freed from the central-hall method of obtaining supervision and access to the class-rooms, and calls for fuller consideration.

We cannot close an inadequate notice of this valuable work without calling attention to the chapter on Infant Schools. An example of a French "école maternelle," given on page 327, is of much interest, and is most suggestive, notwithstanding obvious defects which we in this country would expect to find. The plan contains principles which in these progressive days may be far-reaching in the evolution of infant school planning.

Mr. Clay is a master in the critical research of his subject, and this perhaps has unconsciously led him to be influenced, somewhat more than one would expect in an architect's treatise, by novelties to be found in foreign countries.

Having said thus much the reader may be invited to inspect for himself, if he has not already done so, what may be considered as a model of a goodly and well-ordered array of accumulated facts on school planning not to be found elsewhere.

WILLIAM A. PITE.

ARCHITECTS' BENEVOLENT SOCIETY.

The following contributions have been received or promised in response to the President Mr. J. E. Collcutt's appeal issued last November. The list is still open, and further subscriptions or donations will be gratefully received and acknowledged by the Hon. Treasurer (Mr. W. Hilton Nash).

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* Denotes contributions in addition to donations formerly given as subscriptions for the current year.

ALLIED SOCIETIES.

THE NORTHERN ASSOCIATION.

Mr. J. T. Cackett's Presidential Address.

The members of the Council are aware of the feelings with which, after much pressure, I undertook the duties of President for one year. I knew that any efforts of mine must fall short of the ideal of the N.A.A., and that there were others more entitled to the honour and more capable of upholding the prestige of the office. My conviction was overcome by the persuasion and kindness of our Hon. Secretary and several past Presidents who promised to assist me. For your kind toleration accept my thanks, and let me say how much I am indebted to the gentlemen I have referred to, who have so fully kept their promises as to have justified you in electing me for a second term. This honour I highly appreciate, and for the unanimous consideration and goodwill I have experienced during my Presidency I am very grateful.

ARCHITECTS' BENEVOLENT SOCIETY.

In my Address last year I drew your attention to the appeal of the President of the Royal Institute on behalf of the Architects' Benevolent Society. This year our President, Mr. Collcutt, has felt it his duty to issue a circular letter in which he states the astounding fact that out of 6,000 architects practising in this country only 447 subscribe to this Society. I hope this proportion does not apply to our northern province. We all, no doubt, have many charitable calls, but with the knowledge that the funds of the Society are, after full inquiry, applied only to deserving cases of distress amongst members of our own profession, surely no charity has a greater claim upon us than that of helping our poorer brethren who through circumstances of unavoidable misfortune are reduced to poverty and distress. I believe that the amount paid by the Society in grants to recipients in our province exceeds the subscriptions derived from the district. This is not as it should be. It is our duty to help our brethren less fortunate than ourselves, and there is no better way than through the Society. This year our past President, Mr. Glover, is its Vice-President. May I therefore appeal to all local practitioners to subscribe regularly to the charity which he has so much at heart, and to which he has so handsomely contributed?

THE ASSOCIATION.

It is my pleasing duty to again draw your attention to the continued growth of our Association. We are now commencing the latter half of the 48th Session. In March last, the end of our year, our membership was 233; to-day we have 81 Members, 81 Associates, and 84 Students,

making a total of 246; and before the end of our Session this will be further increased.

It will not, I think, be out of place to here consider matters to the advantage of our profession. Our duties and responsibilities to the public as an Association are becoming greater, and it behoves us to consider how we can best meet them. We have now suitable premises for our present requirements, but are we making the best use of them? For the consideration of this let us divide our Members into two classes: 1st, Members and Associates in practice; and 2nd, Associates not in practice and Students. Lectures are delivered and exhibits shown at the rooms during the winter Session, but otherwise, save for occasional Council meetings, I fear the rooms are little used by the first class referred to. In my last Address I indicated subjects of local interest upon which papers should be read and discussed. The conclusions arrived at would probably be of great assistance to our municipal authorities in the consideration of schemes which deeply interest us as architects. Such opinions would make the Northern Architectural Association known to the public, and lead to its being some power by disinterestedly advocating what, in the judgment of its leading and most experienced men, is the best for the proper development of our cities and towns.

There have recently been several such matters before our local Council, and one in particular (as to which I shall have more to say later) might well have been assisted had the Association taken the matter up. I fear there is much apathy amongst us; but until the Association considers such matters, and proves that its opinion is worthy of respect, we can never hope to be asked for it. At present the Annual Address of the President, if he treats of local matters, is the only record the Association has of local changes; and, looking through the Addresses since that of our first President, those which refer to such matters are now, in the light of present progress, the most interesting reading. It is the duty of the Association, through its practising Members and Associates, to consider and express itself upon those public proposals in which as architects we are interested. I urge this suggestion for the advantage of the city as well as of our Association, and in the hope that our meeting-rooms may become the centre of many animated discussions, resulting in valued and respected opinions.

Regarding the second class of our Members, it is most gratifying to learn from our Hon. Librarian, Mr. Charlewood, that much more use is being made by them of our excellent library; and here let me congratulate the Association on the promise by Mr. J. Lamb to present a very valuable series of architectural works. The advantages of such a library to our students cannot be over-estimated, and it only remains with the students themselves to make the best use of it.

The report of the Students' Classes Club last Session was most satisfactory, and a perusal of the syllabus of lectures for this Session must make many of the older men compare the opportunities they had when young, and draw a very favourable conclusion as to latter-day advantages.

The marked improvement during recent years in the work of the Sketching Club and in students' competition work indicates, I think, greater keenness and earnestness amongst our younger men to excel; and I believe this is largely due to their now being able to meet in our rooms and compare work and discuss difficulties. That this should be so augurs well for the future of our profession locally. But I must draw your attention to the fact that we have about 80 students—a very large proportion of whom are in local offices—and yet the membership of the Sketching Club only numbers 22, and the Classes Club 29, which latter number probably includes the former. It is clear, therefore, that there are still a great many students who are not taking advantage of their opportunities, do not appreciate the work and study required to fit them for the profession, and therefore will never rise to be a credit to it. I would urge these youths to consider this. They have opportunities in Newcastle with the Association and College, which with energy and a desire to learn and excel on their part will well qualify them for the Institute Examinations and their professional career. In this connection permit me to commend to our seniors the remarks of Mr. R. S. Balfour in his Presidential Address to the Architectural Association. He remarks that "it lies with us to see that we only admit to our schools men who will be well calculated to uphold the dignity of the art of architecture," and comments upon the poor standard of general education of many who present themselves for the Preliminary Examination. It is clearly our duty to discourage youths from entering the profession unless we are satisfied they have a fair general education, are of a certain social status, and show natural gifts to justify our articling them; otherwise we may be wrecking a career which might be successful in a more congenial profession or business.

Referring to the measured drawings submitted by the students of the Association in competition, I should like to make another suggestion. Many of the prize-winners in recent years have submitted work of the highest quality—accurate and artistic drawings of the work portrayed. There is much local work of great interest that has been carefully measured and drawn by our students. If such drawings were reproduced in folio form from time to time by the Association, it would be a great incentive to the student, and the drawings would be valuable as a record of the best work of the district.

Before leaving the subject of the Association and our meeting-rooms, I desire to lay a few facts

before you as to our Permanent Premises Fund, in the hope that those who have not subscribed or have only given a small contribution may now assist or further help us. We have had great difficulty in obtaining the sum necessary to meet the required alterations to the premises and the so-called furnishing. Having practically been presented with our home, through the munificence of Mr. Glover, I think it does not at all reflect to the credit of our Members that we have not been able to raise the money required for the alterations, decoration, and furnishing of the premises. In addition to meeting these expenses, we should aim at having a substantial balance to the credit of this fund, for outlay on repairs and additions will have to be met from time to time.

Our bookcases will quickly require extension, an optical lantern should be purchased,* and there is much to do before we can say that the rooms are adequately or appropriately furnished.

The total subscriptions received amount to £271 6*s.* 6*d.*, and I have analysed the same. Taking the membership collectively and excluding Mr. Glover, 25 Members have contributed, in sums of £5 and upwards, a total of £214 15*s.*, proving that 220 Members, Associates, and Students gave the balance of £56 11*s.* 6*d.*—an average of about 5*s.* each. Comment upon this is superfluous.

Let me appeal for assistance to those who have not yet subscribed, and to those who can afford to increase their subscription, and so share the comparatively small responsibility of making our premises the useful and artistic home of the architects in the northern province.

THE ARCHITECTURAL CONGRESS.

The most important event of the year was the Seventh International Congress of Architects held in London in July last, at which this Association was officially represented.

It was a most successful gathering of representative architects from the world over, and ten of our brethren from the northern province attended. Full abstracts of the papers have been published, and I recommend for your consideration many papers on subjects in which we are much interested. Not the least interesting of the attractions was the exhibition at the Grafton Galleries, which included valuable original drawings of the seventeenth and eighteenth centuries, and a fine collection of measured drawings, photographs, and sketches of Mediæval and Renaissance work, classified in order of date. Contemporary work was illustrated by photographs, and there were a few choice pieces of furniture, &c.

The programme of papers, visits, and receptions was most enthusiastically carried through, and the proceedings concluded with a banquet, the good fellowship between all indicating the friendships made by the workers of all nations in a common cause. The Council of the Institute, who were responsible for the arrangements, and especially the late President and Mr. Locke the indefatigable Secretary, deserve all the credit and thanks which the members desired to convey them.

LOCAL MATTERS.

So far as our profession locally is concerned, I do not think for many years past have there been so few changes in the streets of our city. Since the completion of "Milburn House" and one or two blocks of offices in our leading thoroughfares, there is little progress to record so far as street architecture is concerned. After many vicissitudes at the hands of several of our Members, the Central Exchange block has undergone a drastic remodelling internally; but, taking the profession generally, I think all will agree that we are passing through a period of depression. There are, however, indications, I think, that we are emerging from this, and may soon return to the state of activity we so much desire. Two important rebuildings in Mosley Street are about to be commenced, and other considerable building schemes are on the *tapis*.

If street architecture has not shown much activity, however, we have to record the completion of the New Grammar School, the new wing to the College of Medicine, and two works of the very first importance to the city, viz. the Royal Infirmary and the Armstrong College, which were opened by His Majesty the King in July. Newcastle on this occasion was made a royal city, and the Northern Architectural Association will heartily congratulate our first Lord Mayor, Sir Joseph Baxter Ellis, on receiving the honour of knighthood. Sir Joseph, during his preceding year of office, received and entertained our guests the Council and Members of the R.I.B.A. at a conversazione on their arrival in Newcastle, and this reception was the key to the success of the visit.

Although not perhaps concerning us directly, we must all be interested in the progress that is being made with the construction of the reinforced concrete culvert to carry the Ouseburn, over which the valley will be levelled up. About 3,000,000 cubic yards of material will be required for this; but I suppose many years will elapse before we are interested as architects in the development of the new streets on the surface. The scheme will, however, blot out an insanitary area, and in time provide a very valuable space for city extension.

Another example of reinforced concrete building is the immense and recently opened Goods Station of the N.E.R. in New Bridge Street. There can be little doubt that there is a great future for the use of reinforced concrete, although this class of construction is still little beyond the experimental stage, and time only can prove its capabilities.

I hear with regret that the Armstrong Bridge over Jesmond Dene is in a bad state of repair. At an early date, however, it would have had to be

* Since the delivery of this Address Messrs. Wm. & T. R. Milburn, FF.R.I.B.A., of Sunderland, have presented a lantern and all accessories.

widened for the trams, and probably its condition will hasten the consideration of the matter by the Council, and result in a new and wider bridge to meet the traffic demands of the future. This should prove a great opportunity for our City Engineer, for its position over the sylvan valley demands an artistic structure. The result will make or mar the charms of this portion of a park of which the city is justly proud.

I should like to refer to a matter recently considered by the Council, viz., the widening and improving of the levels of the Two Ball Lonnen. It is proposed simply to widen this to 50 feet, but there is the opportunity for making it 60 feet wide and improving the gradients upon favourable terms. I hope, as this will become an important main road, that the chance may not be allowed to slip.

THE MUNICIPAL ARCHITECT.

I believe I am expected to say a few words upon the action of our local Council in employing an architectural staff to do, amongst other work, all the more important buildings of the class which in the past have been designed by and carried out under the superintendence of private practitioners, either by way of selection or competition.

When a change of practice like this is made there is naturally an outcry. We see works of considerable magnitude being carried out by a city official, and naturally resent the loss of this opportunity of securing work. Unless, therefore, we are satisfied that this innovation will effect a reduction in the rates—in other words, will reduce the cost of the architectural work of the city, or that better value is obtained by securing more satisfactorily designed and executed buildings—I think all ratepayers must agree that architects have reasonable ground for complaint. Assuming that such buildings are equally well designed, and it can be proved that by the employment of a corporation architectural staff there is economy compared with the employment of practising architects, as ratepayers we logically can offer little objection; but is this assumption reasonable? It cannot be contended for a moment, with the vast amount of work which the city property surveyor and architect has to attend to, that important buildings can have the thought and care necessary to secure the best design. I doubt if any councillor, or even the City Architect himself, will dispute this assertion.

His first duties consist of the management of the extensive corporation estates and properties, work in itself enough for one department. He has to negotiate the purchase of land and property for all street and other improvements, which in the past has taken and in the future will take up a great deal of his time. He has to design all the minor rebuildings and alterations to corporation property, and supervise both a large architectural staff, and a considerable staff of men, when the actual execution of the work is not let out by contract. A large proportion of his time is taken up by attendance on committees and on interviews with members of the Council, besides the usual time spent on interviews in connection with the actual work. In addition to all this, he has to produce designs for buildings of the greatest variety and importance, including baths and washhouses, police stations, fever hospitals, artisans' dwellings, free libraries, asylum additions, slaughter-houses, and municipal offices. I submit it is impossible for him under these circumstances to produce such economically, artistically, or satisfactorily designed buildings as would equal in merit the work of outside architects, who possibly are specialising in several of the classes of work referred to.

In addition to the long list of buildings I have named, there is rumour that the City Education Committee are pressing for all their schools to be designed in the Municipal Architect's office, and all quantities to be prepared by him also. On this matter I hope registration may improve our position, for the proposed Bill (which I refer to later), amongst other matters, provides that municipalities and other public bodies shall on the erection or alteration of buildings in cities employ a professional member of the Institute. It also provides for legalising the scale of charges.

That the Council under the old system of giving work out, either by competition or selection, to local architects were satisfied with the results seems a reasonable argument for the continuance of the old system. If my contention is right, I think we should continue to protest until this new practice is abandoned, so that the city may have the opportunity of obtaining the best work, the best plan, and most appropriate design, upon the payment of the legal fees for them, which in the end would prove the most economical.

REGISTRATION.

After many years of strife I hope that during the coming year all reputable members of our profession may be able to congratulate themselves that the difficult subject of Registration has been satisfactorily disposed of. I trust that the Institute Council will soon be in a position to submit a scheme which will meet with the approval of country practitioners, the majority of whom, as in this Association, have long advocated some form of registration.

I attended a meeting of the Registration Committee on the 20th March last, when a report with appendix prepared by the Sub-Committee was unanimously approved. This was published as a Supplement to the JOURNAL R.I.B.A. on the 24th March last. In the time at my disposal I cannot deal with the recommendations in detail; but they propose that the Institute Charter be revised, and that a Bill be submitted to Parliament, the intention being that these two matters should not be separated. This report was considered at a special meeting of the Institute on the 3rd April, and

resolutions adopting the same and desiring the Council to consider the details and report in due course to the General Body were unanimously passed. To my mind these two resolutions are a little ambiguous, in so far as it is not clear whether the Council are requested to submit the draft amended Charter and the draft Bill together, or, on the other hand, first deal with the Charter and afterwards the Bill.

It may be quite convenient for the Committee to submit its draft for the revision of Charter and By-laws to the Council before approaching the details of the proposed Bill, but I hope the matter will not be laid before the general body of members in this piecemeal fashion.

The large body of provincial architects are anxious to see the complete proposals of the Institute, and I hope it may be the intention to so submit them. This was clearly what the Chairman of the meeting of the 3rd April had in his mind, for he said: "A complete scheme dealing with the Charter *and* draft Bill would be drawn up and submitted to the General Body."

It is gratifying to read in the President's Address, delivered on the 5th November, that the Committee dealing with the matter had made such progress that the draft scheme—so far as the Charter and By-laws are concerned—is now under the consideration of the Council; and, further, that it is anticipated the revision will improve the position of the practising architect. This, however, is what I fear may happen: the Charter may be revised, and when that is done the subject of the Bill may be hung up until by pressure the Council are again compelled to deal with the matter. Whilst I think I should bring this matter before you, I hope my construction of the last resolutions and the President's remarks may be erroneous.

In connection with this subject may I mention the pleasure with which we are looking forward to another visit from our friends Messrs. Cross and Hubbard? They have promised on the 30th January to read a paper and open a discussion on "The Revision of the Charter of the R.I.B.A." Their assistance will be of great advantage to us in mastering the details, which no doubt are complex; but you will notice the title of the paper contains no reference to the proposed Bill which is necessary to complete the proposals of the Registration Committee.

MARKET STREET EXTENSION.

You will remember—what I must call—the *original* Market Street Extension Scheme was the subject of a considerable portion of my Address last year. Parliamentary powers were obtained in 1899, and the work proceeded until last November without a word of adverse comment. £183,000 had been expended, the necessary property had been pulled down, and nothing remained to be done but the construction of the main road and the outlets alongside of same from Erick Street, apart from the work of the future—viz., dealing with the surplus land. Such, therefore, was the position when I last addressed you that it seemed beyond hope for any criticism to lead to a reconsideration of the scheme. Its defects, however, appeared so serious that, regardless of precedent, I determined to take the opportunity my Address offered to draw attention to the subject.

I have been blamed for my remarks—some could not believe an error of judgment had been committed, others thought my criticism captious and even unjustifiable—but much has happened since then. The end has justified the means, for, as you are aware, the scheme has been abandoned, and it is my pleasure this year to explain its successor, which our City Council has approved of, and decided to submit for parliamentary sanction next Session.

The city is to be congratulated upon its escape from a scheme which was not only disastrous in itself, but worse, in so far as it would for all time have prevented the future development of the neighbourhood. The Committee deserve thanks for the promptitude with which they sought the advice of the City Engineer, Mr. Kirkpatrick (who had then just taken up his duties), and, acting on his opinion, progress was stayed; and, further, for the infinite pains they have since taken to arrive at the best scheme.

We all know how easy it is to criticise and how difficult to construct. It was only after full consideration of almost every possible method of dealing with the problem that the Council recently decided upon the plan before you, so far as it deals with the area between Worswick Street and New Bridge Street, where the street lines are indicated by solid margins.

Before referring further to this scheme it will be convenient to introduce the plan, which you will observe deals with the area to the east of Pilgrim Street and Northumberland Street from City Road to Barras Bridge. By the kindness of the City Engineer and with the permission of the Chairman of the Town Improvement and Streets Committee I am enabled to submit Mr. Kirkpatrick's suggestions for new thoroughfares. Those north of New Bridge Street and south of Worswick Street, indicated by dotted margins, are merely suggestions for the future to mature.

Quoting from my last Address, I said: "It certainly must be wise to look ahead and formulate a scheme, and let every improvement and alteration to property on the line of it be in accord with it; so that money is saved in the end when the improvement as planned is an accomplished fact." It is in this spirit that I propose to explain the *raison d'être* for the disposition of the streets forming the Market Street improvement which the city authorities now have in hand.

The line of Market Street extension remains the same as in the original scheme, but in place of

four different gradients it will have one continuous fall from Pilgrim Street to Trafalgar Street.

For purposes of comparison I again show you plan "B" (which accompanied my Address last year) illustrating the original scheme. You will note the valuable building frontages obtained by the new plan as compared with the original proposal. New Carliol Street follows the line of my suggestion last year. That appears the best—for it is a convenient distance from Pilgrim Street—to permit of the development of the intervening area from these two thoroughfares, and it is in line with a suggested and desirable road (absorbing the existing Princess Street) and leading from New Bridge Street northwards to Northumberland Road.

The south end of Carliol Street is an important variation to my suggestion of last year, and in this respect I desire to congratulate our City Engineer, for it is to his credit that he has looked beyond the immediate area with which the Corporation were dealing. He has designed the south end of Carliol Street, so that it not only provides for all present requirements, but lends itself to possible future extension southwards, as the plan shows. For the present a road for foot traffic is provided to the south end of Carliol Street, from the north-west corner of Carliol Square, which is all that is necessary, since Worswick Street and Carliol Square North lead directly to roads running northwards which are ample for cart traffic.

Concerning Croft Street, the City Engineer submitted to his Committee the two positions indicated on plan by solid and dotted margins, with a strong opinion in favour of the latter; but the former met with approval. No doubt the existing Higham Place and the curved opening at the north end which the Council decided upon in September 1904, and which you will remember I criticised last year, weighed with the Committee in selecting the line shown by solid margins.

It is to be hoped that this important detail may receive further consideration. By providing ample margin for deviation, it will be possible, until the work is well advanced, to still follow the Engineer's advice, and make the street on the dotted lines recommended.

I regret it was not deemed necessary to make New Market Street wider. The Committee, I believe, did not think this desirable, on the ground that it is impossible to widen the older part of the road of which this is an extension. I do not agree that this is a sound reason, however, if only on account of the modern tendency to go higher with our commercial buildings. With this qualification, and subject to my former remarks, I think the scheme the best that can be made for the area, and I hope it will receive your favourable comment. If the Corporation exercise a control over the new façades, there can be no doubt that this will prove the most beneficial and artistic improvement to the city since the days of Grainger.

I hope, though, that city improvements in this neighbourhood will not stop here. There is much to be said in favour of an improvement scheme in the future on the lines of that indicated by Mr. Kirkpatrick for dealing with the district to the south of Worswick Street.

Surely many more years cannot pass without a new High Level Bridge becoming a reality.

Mr. Moncrieff first reported to the New Tyne Bridge Committee of the Newcastle Corporation so long ago as June 1893, and since then has reported from time to time. In June 1898 the scheme was enlarged after consultation with Messrs. Laws and Bower, the engineers for Newcastle and Gateshead respectively, and fresh estimates were prepared and submitted to this Committee. These were made the basis of a report presented to the Council and adopted on 2nd September 1899. Since then the matter has been in abeyance until Mr. Kirkpatrick was recently instructed by the Committee to consider the question of site, and he reported that that indicated upon the plan is the only practicable one. It is that proposed by Mr. Moncrieff (and shown by me on plans last year) leading directly to the foot of Pilgrim Street.

While this is a work of considerable magnitude, its importance to the city can hardly be over-estimated. The immediate result would be that Pilgrim Street would regain its ancient position as the highway through the city. The slum property at its lower end would be replaced by modern business premises, and the adjoining area from City Road northward would become a commercial district of importance, if its development on some such lines as those indicated on the plan were in due time undertaken. City Road has suffered because it has no continuous building frontages on each side. So far as its west end is concerned, the suggestion would remedy this; for you will observe Manor Street would be abandoned, and its area would become a building site. The fine wide road starting from the position of the Arcade, leading with a regular gradient over the site of the Gaol to Croft Street, and passing near to the new local passenger station, would become a most useful thoroughfare; and it follows that the area on each side would be advantageously developed. Bearing in mind the present levels, it is difficult to see how this area can be as well dealt with without this suggested road.

The great depth of property between Pilgrim Street and Carliol Square West has proved an obstacle to its development, and this again would be remedied by the continuation of Carliol Street southwards. The whole area now under consideration lies in a basin which necessitates steep inclines, thus increasing cost of carriage and reducing the value of the land. This also would be remedied, as it is proposed to level this up, as was the means adopted in the making of Grey Street and other thoroughfares in this city.

We have long heard of proposals for the removal of the Gaol. The North Eastern Railway sidings

shown on the plan are about to be abandoned, and the new railway station will undoubtedly bring the neighbourhood into prominence. These factors favour some such scheme of reconstruction; and although it may be in the far future, still such suggestions should be kept in view, and, as changes come, very favourable opportunities may arise for seriously taking the work up.

My observations as to the future of this portion of the scheme, however, do not apply to the proposals north of New Bridge Street. These are practically what I suggested last year, and therefore are fresh in your memory, and, for the most part, are ripe for dealing with, and have the recommendation of being able to be carried through at comparatively small expense.

I desire, however, to again refer to the Corporation plan for opening out Higham Place. If this road is kept in its present position and opened through to Ellison Place, it will soon become an important thoroughfare with the traffic from the Shieldfield district alone, but much more so if College Street is carried through as proposed, with a branch leading from the neighbourhood of Jesmond Station, as our City Engineer has suggested. It must sooner or later, therefore, be widened, and the money spent on the proposed curve at the north end will be wasted, and property will have to be then purchased at its increased value due to the thoroughfare. Surely it is wiser to look forward, and make an alteration that will meet the demands of the future.

Beyond this, however, I desire to urge the consideration of the Engineer's plan for moving the road to the east. If it is simply widened in its present position a very narrow strip will be left, insufficient for profitable rebuilding, and the widening will be outlay without any possibility of recoupment. If the road is moved, however, as suggested by dotted lines, a continuous fine thoroughfare forming a better approach by Croft Street to the city will be the first gain; an open space will be provided in front of the Laing Gallery; and the garden behind the late Miss Dobson's house, which has now a back street on each side of it, with no outlet to that on the west, will be absorbed, and become valuable building ground with a frontage to the new road, and thus help to recoup the city for the improvement.

The brevity of my remarks is not at all commensurate with the importance of the subject; but, having regard to all I said last year, and feeling that, now it is being approached on the right lines, it seems unnecessary to take up your time with other details which are self-evident from examination of the plan.

I desire, however, to say a few words upon the financial aspect of the improvement. A man may replan and rebuild his premises with the knowledge that they will not thereby be improved in value by the total amount of the outlay, but he considers the convenience gained for his business is well worth the expense. Similarly, city alteration schemes are justified, though they offer no recoupment beyond the increased facilities the citizens derive therefrom.

It is not, on the other hand, an uncommon experience for a man to purchase a block of old property at its full value, and with an expenditure of thought and capital he transforms it, and then realises for it far more than the money expended. It is in this latter category that I firmly believe the Market Street improvement when complete will be found.

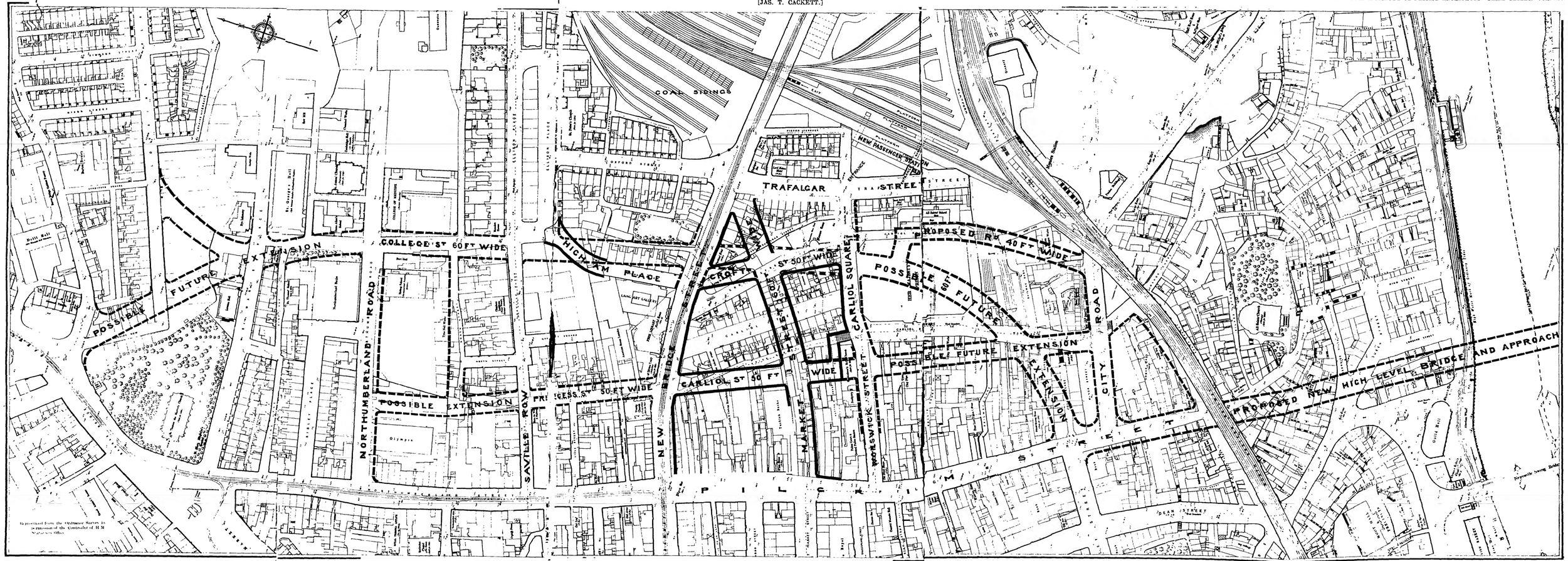
It is impossible even now to estimate what Newcastle has gained by Grainger's far-sighted reconstruction of seventy years ago. Much less could he and his advisers then realise the ultimate financial success of his work. So I believe it is beyond us to estimate the advantage this scheme will in time be to the city. Several of our City Councillors do not approve of considering posterity, although it is analogous to the future of our city. With them any scheme is not worth consideration if it involves an outlay of money; otherwise it is difficult to understand the action of the minority in opposing this scheme.

The success of the scheme financially depends naturally upon the manner in which the Corporation deal with the property vested in them. Skill and judgment must be exercised throughout. The placing at one time of a large area of land on the market will naturally reduce prices, and as great portions of the old property as possible must therefore be retained to yield some income pending sales. The operations must extend over many years, and sales must not be forced. If care be exercised to secure the sale of the more important sites for large business premises, it would improve the demand for and price of the adjoining sites; but it cannot be expected that the prices which will be obtained will compare with those given for sites in older thoroughfares which have on either side firmly established business premises.

When I submitted my reconstruction scheme last year, I had prepared a very careful estimate for the purchase of the land, and, as I believe, a low estimate for the realisation of the available area. Without allowing for interest on the capital between the dates of purchase and realisation, I found a large balance in favour of the operation—more than sufficient to cover the interest of many years. There is not a great difference between my scheme of last year and that now approved by the Corporation, so far as the saleable areas are concerned, and I have since had the opportunity of comparing my estimate with that prepared on behalf of the Corporation. Comparing the two on the same basis, the difference is indeed trifling. Much, of course, depends upon the speed with which the realisation takes place. On the financial aspect, therefore, I submit the scheme is justified; but, in conjunction with its many public benefits, its desirability cannot be doubted.

PLAN OF SUGGESTED STREET IMPROVEMENTS IN CONNECTION WITH MARKET STREET EXTENSION, NEWCASTLE-ON-TYNE.

[JAS. T. CACKETT.]



ADDRESS TO STUDENTS

Delivered by Mr. T. E. Collcutt, *President, Royal Gold Medallist,* at the General Meeting, Monday, 4th February 1907.

Gentlemen,—

We are assembled here to-night for one of the most pleasant functions of the session, that is, the presentation of prizes to those students who have been fortunate in their endeavours, and whose work has obtained deserved recognition. In their success we are all deeply interested, and in offering them our congratulations I feel sure we shall have the hearty support of those students who, for the moment, have failed to reach the goal, but who, nevertheless, we are confident have not lost heart.

It has been well said: "In the vocabulary of youth there should be no such word as fail." This is the spirit which should inspire the student; which should bear him up against temporary defeat, and should brace his energies to re-enter the lists with courage. And after all, those who are unsuccessful may console themselves by the reflection that "the race is not always to the swift, nor the battle to the strong."

We shall presently have the pleasure of listening to some critical remarks by Mr. A. W. S. Cross on the work that has been exhibited in competition for prizes. In the meantime I propose to adhere to the time-honoured custom in taking this opportunity of addressing a few words to you in the way of advice and encouragement. In following the excellent example of my predecessors, I must of necessity travel over ground with which some of you are already familiar; but having had a long experience I hope I may be able to offer you some serviceable advice.

In the first place, I wish to impress upon you the importance of fully considering whether the career you have chosen is your proper vocation. It is essential to be sure that you have not a mere inclination for your art, but that you feel for it such a love and reverence as will enable you to overcome serious difficulties. If after a period of work in the schools you find that your interest is not sustained, and that your labour becomes irksome, then I would advise you to consider seriously whether some other career would not offer more attraction and interest to you. Nevertheless, do not be easily discouraged. Remember that in all callings, even in the highest, there is a certain amount of drudgery and uninteresting work to be faced before one is qualified for the more pleasant studies which follow.

But perhaps these words of warning are not necessary. Let us hope that all whom we see here to-night are entering upon their career with enthusiasm, and with the feeling that they are serious students of the oldest of the arts—an art in which one always remains a student, and in the practice of which a lasting joy is to be found. Most of you are familiar with the educational work carried on at Tufton Street, and with the advantages

derived from attending the classes held there. The school is still in its infancy, and we have every reason to hope it will continue to develop in the right direction. My private experience of the high qualifications of those students and assistants with whose work I am familiar fully corroborates this encouraging view.

It is not within the province of such an Address as this to dictate the course of study you should pursue. This has already been efficiently done by the Architectural School and by the Board of Architectural Education. However, I may remark that, naturally among your first attempts will be geometrical drawing, freehand drawing from the round, and perspective drawing. A student cannot pay too much attention to the acquirement of draughtsmanship so necessary to our art. In particular I would advise that perspective be very thoroughly learnt; and that in practising it at first only rigid lines should be employed; all picturesque, broken, and shaky lines and "dodgy" lights and shadows must be regarded as pitfalls and must be avoided. I would urge you to do all in your power to become perfect in this branch of your studies. To design well is to think in perspective; to be able to think in perspective one must have a sound knowledge of its principles. Again, I would advise constant practice in sketching from still life: a quarter of an hour each day will be of immense benefit.

Always remember this: all your skill and accomplishment as draughtsmen, whether merely in geometrical or perspective work, or in the artistic representation of sculpture and carving, are only a means to an end. Do not forget that much of the great work of the world has been achieved without the aid of drawing—that is to say, without that quality of drawing which in the present day we are obliged to consider an essential to the complete education of the architect; for example, the drawings that we suppose to have been executed by Wren will not bear comparison with the work that we ordinarily expect from an advanced student. The geometrical work of Wren was no doubt correct, but, according to the standards of the present time, it was certainly ill-drawn. Although there is evidence that he could very clearly indicate the carving he thought desirable, yet these indications would scarcely pass muster as really good drawings. I do not lay stress on this point as an excuse for slovenly and bad drawing. Good draughtsmanship is, as I say, necessary nowadays; but I wish to warn you emphatically against the temptation of thinking that pretty drawings are essential to good architecture.

I recently saw some modern buildings in Spain designed in a rococo manner, with a touch of L'Art Nouveau. Well, we have some pretty bad art even in England; but I think that this surpassed the utmost I have seen in the way of banality, feebleness, vulgarity, and originality—save the mark! I learned that this was the work of a man who had gained a Government diploma as a qualified architect; that he was a most accomplished draughtsman, and that the drawings of the elevations of these very buildings almost amounted to a work of art. I think this may be regarded as a lesson in considering drawing only as means to an end.

There is an old saying that "you cannot make a silken purse of a sow's ear," and you cannot make a fine building merely by means of fine drawing: you may embroider the sow's ear with the finest silk, but it remains a sow's ear!

In studying the ancient, the mediæval, and the later styles of architecture, I would advise separate study of each period as far as possible. Make a thorough study of the Greek, the Byzantine, and the following styles, taking as examples some well-recognised buildings, but bearing in mind that no buildings can be fully appreciated from mere illustrations, however well executed these may be. To gain even an approximate idea of what inspired the ancients and our more immediate forefathers you must see for yourselves the monuments they have left for our wonder and admiration.

I may mention here my own experience in this direction. Although I was fairly familiar

with the Doric Order as exemplified in the Parthenon, yet it was not until I had actually seen the building that I was able fully to appreciate and understand the wonder of this work, to my mind the simplest as it is the most beautiful of all the Greek masterpieces.

Although from books and drawings one may be perfectly familiar with the general lines and proportions of the Parthenon, yet one does not fully appreciate or understand the wonder of the work unless one has seen the actual building. When one contemplates it, even in its present condition, dominating the Acropolis, under the southern blue of Greece, it needs but little imagination to conceive something of its magnificence as it shone in all its glory twenty-four centuries ago. The more one sees of the Parthenon the more one is impressed with its marvellous purity of line, workmanship and material. It expresses in a wonderful measure the thought, religion, and learning of the period during which it was built, and it reaches the highest ideal and the perfection of architecture and sculpture. I am not advocating the Doric as a style suitable for to-day; neither do I maintain that it would adequately express the mind, religion, and history of the periods succeeding the Greek. It does not appeal to modern requirements, ethics, and social life in the same sympathetic manner as the Byzantine and the succeeding styles.

The Parthenon seems to me to embody perfection of line. The entasis of its component parts, the columns and the steps are perfect, and one feels that even such details as the curve and width of the flutings could not be altered by the fraction of an inch without damaging the proportions. The very dimensions of the building could not be altered without detriment. Perfection having been attained in the dimensions, the building would not have been so perfect had it been smaller or larger.

A lady of the inquiring type of mind once asked (not as a riddle, but as a serious question): "Why cannot architects improve on the design of a building erected so many centuries ago?" "Madam," was the reply, "has the Almighty improved on Adam and Eve?"

I am not advising you to study Greek work so that you may erect Greek buildings in England, but so that you may attain some notion of the motives and ethics that influenced Greek architects and sculptors—fully to comprehend these it would be necessary to have considerable knowledge of Greek literature, religion, and daily life. It is very questionable whether Greek architecture is suitable to our climate, and to the conditions of modern life and thought. In our country it tends to become "faultily faultless, icily regular, splendidly null." Think of the Parthenon with its colour, its workmanship, and its setting of blue sky and clear atmosphere; and then look at the Doric portico to Euston Square Station. Neither its material, its colour, nor its size is satisfactory. With regard to material, the stone employed is not sufficiently delicate in colour or in texture to obtain the true proportion of light and shade, especially to the flutings. The diameter of the columns, and therefore the whole structure, is greatly in excess of any known ancient examples, and one cannot but believe the Greeks had determined the limit of magnitude for work in this order.

I am afraid I am enlarging my discourse into a lecture; but I wish to impress upon you the necessity of acquiring a sense of proportion, and the only way to do this is to approach in a spirit of reverence the great works that have appealed to successive generations, and that are universally acknowledged to be masterpieces. Do not, at any rate to begin with, criticise too freely the works of art that have been established as pre-eminent by the verdict of expert opinion in ages past and present. Take this verdict for granted, and then study these great works by drawing and by contemplation, and try to understand wherein lies the excellence of their proportion, of their detail, and of their general massing.

I do not consider it advisable in pursuing these studies to exclude a study of the modern

building from your curriculum; however enthusiastic in your admiration for one style or period, do not blindly condemn all others.

In giving your attention to the old masterpieces, do not omit to observe very carefully the materials in which they are built, for this is of the utmost importance. The student should not only make himself thoroughly familiar with the right use of materials, but he should be sure to realise the great influence that these have upon style. He should also compare the varying qualities of workmanship. Ruskin, I think, has somewhere made the assertion that perfection is not always desirable. An illustration of this theory may be found in comparing the perfection of the Greek Doric workmanship with the roughness and unevenness of the porphyry and other columns in St. Sophia at Constantinople. In the latter case, perfection, I think, would have been fatal; the very unevenness of the surface of the columns gives additional charm. I will venture to uphold the theory that excellence of workmanship as regards exterior finish is altogether desirable for any architecture founded on the Classic, but that very high finish is not always desirable in Byzantine and Mediæval work. In most old examples it is not met with.

Let me counsel you, when you have made some progress in the study of a particular style, to practise design in that style; but I must warn you to avoid efforts after originality. A strong personality will inevitably assert itself sooner or later, but pray do not force it. There is nothing new under the sun, and it may safely be said of any too "original" kind of building that it has been done as badly before. I have warned you against the "New Art"; this, however, I do not utterly condemn, because I think it has occasionally shown some signs of merit; but a previous and acknowledged style is generally found on careful scrutiny to be the basis of these signs of merit, the origin of this "originality." Do not attempt the new Art until you have a knowledge of the old. In your education as architects I think you will find plenty to do without striving to impress the public with your originality. In practising designing do not lose heart; this branch of your studies requires as much patience and perseverance as any other, perhaps more. Do not hesitate to use india-rubber; never mind the soiling of paper—perhaps you will find the dirtier your paper becomes the nearer you are to achieving your aims. All may acquire an ability to give the world something pleasing, although it does not come within the scope of all to leave a lasting mark on the history of their generation.

To turn to more prosaic matters, a somewhat homely comparison may be used to illustrate the diverse nature of acquirements necessary to an architect. A second-hand furniture dealer in a back street advertises the magnitude of his undertakings in quite a forcible manner. Over the doorway of his sordid-looking shop is written—

Do you want it? We sell it!
Don't you want it? We buy it!
From a microbe to an airship.

Well, this gentleman's business would seem to cover a good deal of ground; perhaps his advertisement errs on the side of exaggeration. But some of the same wording might very appropriately be applied to our calling. It is expected that your education should include a knowledge of almost every possible trade. You must necessarily be acquainted with the habits of the microbe, the mysterious tenant of the sewer; and possibly you must also be acquainted with the suitable decoration for a steamship's saloon. You must certainly understand something of all the building trades involved in erecting anything from a cottage to a palace. It really appears, therefore, that your education must be as wide as the business operations of the man who will deal in anything from a microbe to an airship. But do not be discouraged.

As you progress, you will find that this diversity of subjects is not so formidable as at first appears. It is true that, besides the fine art of architecture and the art of construction, there are many subjects with which the architect must have more than a casual acquaintance. Although experts may be consulted on steel construction, sanitary work, electrical work, and heating, yet the young architect should endeavour to become master of the principles involved in such matters as these. It is also very important for the student to have some knowledge of the sister arts of painting and sculpture, and under proper guidance to study the old masters. He should know something of the history of painting, and should be able to trace the gradual development of colour-decoration from early work, such as the Byzantine mosaics, to the culminating point of colour-decoration as exemplified in the pictures of the Italian Renaissance. Let him also study sculpture; in our museums he will be able to compare the Ninehvite and Egyptian work with the Elgin marbles, and from them he will pass to a study of the Italian work. Neither must the lesser arts be neglected. Furniture, porcelain, needlework, tapestry, in fact every department of the Fine Arts, should be considered. The collections at South Kensington Museum should be studied and compared with the architecture of the same dates. Chippendale and Sheraton, Jacobean and Carolian furniture should be observed in reference to the houses of the periods they were designed to adorn.

In conclusion, let me repeat how great has been my pleasure in addressing you to-night. You are starting on your careers; I may be considered as having entered on the last stage of mine. I can conscientiously assure you that I still feel as great a devotion as ever to the art I practise, although age is generally supposed to dull enthusiasm, and to give rise to a prosaic and worldly spirit. Happily our art always tends to maintain youthful thought; with all its difficulties it has this great compensation, that to the last we can take a joy in our work, and a pleasure in striving to arrive at that ideal in art so ably described by George Gissing:—

"Art might be defined as an expression, satisfying and abiding, of the zest of life. This is applicable to every form of art devised by man, for in his creative moment, whether he produce a great drama or carve a piece of foliage in wood, the artist is moved and inspired by supreme enjoyment of some aspect of the world about him—an enjoyment in itself keener than that experienced by another man, and intensified and prolonged by the power which comes to him, we know not how, of recording in visible or audible form that emotion of rare vitality."

REVIEW OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1907.

By A. W. S. Cross, M.A.Cantab. [*F.*].

Read before the Royal Institute of British Architects, Monday, 4th February 1907.

Mr. President, Ladies and Gentlemen,—

BEFORE proceeding to discuss, in accordance with the pleasant but responsible duty entrusted to me, the comparative merits of the various essays, designs, and drawings submitted, this year, in competition for the prizes and studentships of our Institute, I propose, with your permission, to make a few general remarks upon the quality of the work I have lately examined.

In the first place, it is somewhat disappointing to the Council to have to record the lamentable fact that, with one or two exceptions, the work received falls below the standard of excellence attained in recent years, at least as regards the designs and drawings, for, as I have not had the pleasure of reading any of the essays submitted on other occasions, I am unable to state whether the two which have received recognition in the recent Essay Medal competition are above or below the average standard of merit of those of former years. However this may be, the best of the essays of the year, without perhaps possessing that somewhat mysterious and oft quoted quality known as "literary style," are both eminently readable, interesting, and instructive productions, which deserve the honourable position they have obtained.

Whilst it would be invidious, and altogether unnecessary, to point out glaring weaknesses in any particular design, it is quite obvious that many of the competitors for the Soane Medallion have paid very little attention to the elements of scientific planning. To those students I would reiterate the well-known fact that the ideal plan is one which is, apparently, of the simplest possible character, and indeed is so easily read and understood that its dominant idea can be immediately grasped even by an inexperienced observer, who would, not unnaturally, imagine it had been evolved after, perhaps, an hour or two's work. Now the unnecessarily complex nature of the planning, observable in many of the designs, is very noticeable, and their authors would be well advised to be mindful of the old saying, "Summa ars est celare artem," and in their future efforts endeavour to conceal, by the production of simple and apparently easily arrived-at plans, the vast amount of study and labour involved in the solution of problems in planning arising from the multitudinous requirements of large buildings.

With regard to the architectural quality of the work submitted, I would plead for more accurate scholarship; and although, of course, our students are in no way to blame for the wholly inadequate existing arrangements made for their technical education and training, yet in an address that is primarily delivered to students, I trust I may be permitted to express the hope that the time is not far distant when the younger members of our profession will be enabled, by the institution throughout the country of a well-devised, systematic, and co-ordinated curriculum of study, to produce designs of a far more scholarly type than those emanating from the majority of the architects of to-day. Zeal without knowledge is like expedition to a man in the dark, and in support of my plea I may mention the fact that, in some of the designs (and even in a measured drawing of what is supposed to represent a well-known building by an eminent architect of the eighteenth century), the authors have not taken the slightest trouble to correctly delineate the proportions and characteristics of the classic orders

with which the building and designs in question are embellished. Students should remember that the immediate future welfare of our art is in their hands, and endeavour to recognise the undoubted fact that skill in draughtsmanship, when not allied to architectural scholarship, does not admit of the production of good architecture.

Although I have ventured to express the opinion that the drawings, and designs generally, are inferior to those of recent years, yet I must certainly make an exception in the case of Mr. Jackson's work for the Owen Jones Studentship, the quality of which is of so high an order of merit as to be quite beyond reproach, while the drawings submitted by Mr. Robertson for the Measured Drawings Prize are also exceptionally good.

With these few preliminary remarks I will now discuss the individual efforts of the various competitors.

THE ESSAY MEDAL.

Six essays on "The Influence of the Use of Iron and Steel on Modern Architectural Design" were received, and the medal has been awarded to the one submitted under the motto "Three Ages," while a certificate of Honourable Mention has been given to Mr. Verstage, of Godalming, whose essay was placed second in order of merit.

The author of the successful essay treats his subject in a very practical if, necessarily, in a somewhat concise manner, and after a brief but interesting historical introduction, there are some valuable notes on the use and properties of cast iron, wherein mention is incidentally made of the widespread attention drawn to iron construction by the erection, in 1851, of the Crystal Palace. The present use of steel as applied to the structure of buildings, its effect on planning, its economy of space, and its influence on fenestration and design are discussed at some length, and diagrams are appended showing the comparative sizes of brick piers and steel stanchions necessary for the support of edifices respectively twenty and six stories in height. In conclusion, the author is of opinion that while the use of steel is, for the moment, an economical necessity, it does not necessarily follow that this form of construction, with its many unstable qualities, will be in vogue as a system of building for any very considerable time, or will be likely to take permanent root in this country, and that, in all probability, the use of structural steel is but a passing phase.

The question is discussed at greater length by Mr. Verstage in his essay, which is copiously illustrated by photographs of Parisian and other buildings, including churches, bridges, railway stations, markets, libraries, and private edifices, in the construction of which iron and steel are employed to a considerable extent, and more or less dominate the designs; and the author quotes Ruskin as saying, in 1849, "that the time is probably near when a new system of architectural laws will be developed, adapted entirely to metallic construction." Mr. Verstage arrives at a conclusion diametrically opposed to that of his successful fellow competitor, for whereas the latter, as we have seen, describes the now general use of iron and steel as a "passing phase," the former states that "we have moved far in the architectural development of iron and steel, and although new laws and new canons have not definitely crystallised, yet, given the continued use of these materials, the time cannot be far distant when the proportions proper to them will be accepted as readily as we now accept those proper to stone."

THE MEASURED DRAWINGS MEDAL.

Despite the fact that this competition has attracted six competitors, the medal has not been awarded, but certificates of Honourable Mention have been granted to the authors of the drawings marked "Waynflete" and "Swallow" respectively.

The drawings submitted by "Waynflete" comprise six sheets of very careful brown-ink

studies of Magdalen College, Oxford, and those by "Swallow" illustrate, in a singularly attractive manner, that most interesting building, Stokesay Castle, Shropshire. "Swallow" is to be congratulated both upon his powers of draughtsmanship, as evinced by the beautiful drawings he has produced, and upon his happy selection of a building so suitable for the picturesque type of geometrical delineation he has adopted. The measured drawings, marked with the heraldic device of a Horse's Head and illustrating Kirby Hall, Northants, are accompanied by a badly drawn perspective sketch, and the large scale detail drawing is weak.

"Thrums" has selected for illustration the well-known church of St. George, Hanover Square. The details and ornamentation are not well delineated, and the beauty of the fine west portico has been altogether lost, owing to the want of care or knowledge in drawing the columns and capitals. The full-size mouldings are rather unnecessarily crowded together upon a single sheet, whereby their value is greatly diminished.

The drawings, by "Adze," of Wren's Library at Trinity College, Cambridge, although not very vigorously executed, have evidently been conscientiously prepared.

"Spero" has selected what is now becoming a rather hackneyed subject for measured work—viz. the famous Orangery of Kensington Palace, but his drawings possess considerable merit and show distinct promise of future excellence.

THE TRAVELLING STUDENTSHIPS: (I.) THE SOANE MEDALLION.

In this competition, for which fifteen designs were submitted, the Medallion and the sum of 100*l.* have been awarded to the author of the drawings marked "Cameo," whilst those prepared by "Simplex" and "Urn" have gained Honourable Mention.

"Cameo's" design is of the now popular Renaissance type, but I am glad to see that its author has not slavishly followed the prevalent fashion to an extent that would have compelled him to leave a huge gap in his main cornice for the sake of more fully exhibiting the attractions, whether real or imaginary, of an attic story. But whilst "Cameo's" elevations are satisfactory there are several blemishes in his design: thus the four small areas are objectionable features of the ground floor, and the access to the ballroom, on the first floor, is anything but good and direct, and neither the large scale detail drawing, nor the section, exhibits a very happy effort of draughtsmanship.

"Simplex" submits a design in which the winter garden occupies the central position of the ground-floor plan. The external architectural treatment is good, but some of the details of the planning are weak, as, for instance, in the case of one or two of the bathrooms on the first floor, which are, apparently, altogether enclosed by internal partitions.

The author of the drawings marked "Urn" has produced a design that, on the whole, is distinctly the best of those submitted. "Urn's" plan is laid out on broad and simple lines, and his elevations possess considerable merit; but I understand that its author, unfortunately, lost his chance of securing the prize by ignoring one of the salient conditions of the competition.

The time at my disposal does not enable me to do more than briefly mention the other designs, amongst which "Novo" is conspicuous by reason of a well-treated elevation accompanied by a simple and attractive plan. "Aero" and "Applique" both show the influence of trans-Atlantic art. "Pax" has a fairly good elevation, but his sections and plan are rather crude. "Cid's" design is in many respects a meritorious one. "Rush's" drawings include a rather poor-looking perspective, and those submitted by "A.T." are not particularly well prepared. "Dentil's" plan is weak, and "Kokrel's" Greek elevations are hardly suitable for a city hotel. "Silver Shield" has not overcome the lighting difficulty in an altogether

satisfactory manner, and the capitals of his Ionic order are incorrectly drawn. "I Parve's" plan is laid out on simple lines, and its author has happily managed to dispense with small internal areas, but "Pau's" scheme is of far too complex a nature.

(II.) THE OWEN JONES STUDENTSHIP.

Two applications were received for this Studentship, from Mr. Robert Atkinson and Mr. Arthur R. H. Jackson, and the certificate and the sum of 100*l.* have been awarded to Mr. Jackson, of the Royal College of Art, South Kensington.

Mr. Jackson's drawings, which are of far more than average merit, comprise very careful and painstaking water-colour delineations of the ceilings of Raphael's Loggia at the Vatican, mosaics from San Clemente at Rome, the painted barrel-vaulted ceiling (by Luini), the later frescoes (by Ferrari) of the dome, and other drawings, sketch plans, and elevations, of the Santuario Soronno.

Studies from nature of chrysanthemums and three drawings of ornament, showing the conventional application of the studies, a design for a panel and a charmingly coloured representation of a Della Robbia-ware panel from the Pazzi Chapel, Florence, a tempera study after Raphael, and many other beautifully executed sketches and studies are also submitted; and Mr. Jackson is to be highly congratulated upon his brilliant exhibition of thoroughly good and conscientious work.

Mr. Atkinson sends a goodly array of very clever water-colour sketches and measured drawings of well-chosen subjects from notable buildings in Florence, Ravenna, Siena, Rome and Venice, and a finely drawn and coloured design for a lounge and staircase. Mr. Atkinson's drawings are all of a very charming character, but unfortunately, with one or two exceptions, they seem to bear no particular reference to the requirements of a studentship primarily founded for the special study of ornament and coloured decoration.

(III.) THE PUGIN STUDENTSHIP.

Three applications were received for this Studentship from the following, viz. Mr. F. Townson Clark, Mr. A. G. Margetson, and Mr. Wilfred I. Travers; and the Medal and the sum of 40*l.* have been awarded to Mr. A. G. Margetson.

Mr. Margetson's measured drawings, which are superior to his perspective sketches, include careful delineations of the Organ Screen and Chapter House doorway from Southwell, a bay of the arcading from the Lady Chapel at Ely, and other studies. The pencil perspective sketches include drawings of St. Mary's Church at Oxford and many of the collegiate buildings of that city.

Another competitor, Mr. Wilfred Travers, submits many good pencil sketches of well-chosen subjects, including drawings of the old schoolroom at Uppingham, the Palladian Bridge at Bath, a pier of the Lion Gate at Hampton Court, the Guildhall, Peterborough, and others from Gloucester and Lincoln Cathedrals, Crowland Abbey, &c. Unfortunately Mr. Travers' measured drawings are few in number, and the examples selected for illustration comparatively unimportant.

Mr. Clark sends pencil and water-colour sketches of some of the Colleges at Oxford, and a rather weakly delineated measured drawing of no very great interest.

(IV.) THE GODWIN MEDAL.

Only one application was made, and the Council were unable to award the Bursary for this year.

(V.) THE TITE CERTIFICATE.

No fewer than twenty-one designs for a Loggia for Sculpture were received, and the prize has been awarded to the author of the design marked "Vignola," Mr. G. Salway Nicol, of Birmingham. Mr. Nicol's design fully deserves the honourable position it has obtained, as it possesses the indispensable architectural qualities of good proportion and effective enrichment; but exception must be taken to the manner in which the short entablatures of the Ionic columns (which serve as the imposts of the large semi-circular arches) are broken against small rustic pilasters, carrying cartouches, placed in the spandrels of the arches. The pencil perspective drawing scarcely does justice to the undoubted merits of the design.

The author of the drawings marked "Nisi" receives Honourable Mention for a well thought out design, of which the architectural treatment of the main block is decidedly good; but the general effect of the composition is irretrievably spoilt by the relative want of scale apparent in the side colonnades, of which the diminutive Ionic orders and small pavilions seem to bear no architectural relation to the stately and monumental appearance of the main building. Portions of the perspective view are out of drawing, notably the entablatures crowning the coupled Doric columns.

Among other prominent designs, that by "Hermit" is conspicuous for many good qualities, but it is conceived on too ambitious a scale; whilst the design by "Vita," although more in accordance with the spirit of the instructions, is illustrated by rather weak drawings. "Gradus" submits a carefully thought out scheme, accompanied by good drawings. "Spread Eagle's" perspective is a poor one, and the author of the design "Forced Draught" has rather allowed his imagination to run riot with his judgment.

"Valhalla's" drawings include a vigorous pencil perspective sketch, in which, however, the Ionic orders do not appear to be very correctly drawn, and the author of the design marked with the device of a "Wreath" submits some carefully delineated elevations. "Heart-easing Mirth" sends some well-prepared drawings, and "Orne" a weak set, of which the details are said to be taken from the North Porch of St. Paul's Cathedral. The drawings of "Ecclesiastes" are effectively prepared in coloured ink, and "Delta's" elevation is well drawn, but his perspective is unfinished.

"Si Jeunesse savait: si Vieillesse pouvait" submits an elaborate design in the French style. The drawings of "Ionicus" and of "Vincit qui patitur" are weak. "Robinson Crusoe" sends a rather crude detail and a poor perspective. "Meg's" design has merit, and "Crown's" is well thought out and illustrated, although the perspective view is spoilt by its heavy colouring. The design of "Altiora Petamus" is fairly good, but the outline perspective is weakly delineated; and "Cheiro's" unambitious scheme is suitably arranged.

THE ARTHUR CATES PRIZE.

Competitive drawings for this prize were received from Mr. W. W. J. Calthrop, Mr. Frank Dyer, and Mr. W. D. Quirke. The prize has been awarded to Mr. Calthrop, who has submitted a number of sketches and measured drawings of well-known examples, including the beautiful centre bay of the south front of Wilton House, the Palladian Bridge at Prior Park, the Banqueting House, Whitehall, and the Cloisters of Norwich Cathedral. A sheet of working drawings for a stone dome are also included in the successful competitor's exhibits.

Mr. Quirke sends a set of well-executed measured drawings of the church of St. Nicholas, Old Shoreham, and other studies, including a perspective view and measured drawing of the portico of the church of St. Martin's-in-the-Fields, and a well-executed sketch of King Henry's Gateway, St. Bartholomew's Hospital.

Mr. Frank Dyer's selection of drawings comprises a sketch of the tomb of Archbishop de Grey, from York Minster, and one of an oriel window from Lincoln Cathedral. St. Mary's Church, Beverley, York, forms the subject of the measured drawings submitted by this competitor.

THE GRISSELL GOLD MEDAL (FOR DESIGN AND CONSTRUCTION).

Four designs were received in competition for this prize, the subject being a Grand Stand, constructed of Timber, on a Race Course. The medal has been awarded to Mr. W. A. Mellon, the author of the drawings marked "Royal Ascot," who has submitted a clever design of a Renaissance type, which, however, is marred by the introduction of a large semi-circular shaped laminated timber rib placed over the central entrance and presenting a rather incongruous appearance.

The design by "Sceptre" appears to be worked out on perhaps more practical lines than that selected for the prize, and its suitable architectural treatment is well illustrated by a meritorious set of drawings.

The designs of "Hurst Park" and "Video" are of a commonplace type of architecture, but the plan of each of these competitors possesses merit, and the practical requirements of a building of the class in question have evidently been well considered.

In conclusion, Mr. President, Ladies and Gentlemen, I must compliment this Institute upon the wonderful zeal and praiseworthy self-denial of those students who have taken part in its competitions for the current year, as is proved by the enormous amount of time and study expended upon the designs and drawings it has been my privilege to examine and admire. I heartily congratulate the prize winners upon the successful results of their labours, and to those who have been unsuccessful in the struggle I would point out that an architect's success in the subsequent practice of his profession is not, necessarily, dependent upon his all-conquering career as a student. Finally, while I can scarcely expect that my estimate of the architectural value of the work submitted will be endorsed in every instance by the competitors, yet I am sure they will all credit me with having founded it upon a perfectly fair and impartial basis, and I advise any student who may, perhaps, feel momentarily disposed to take umbrage at my remarks, to solace himself with the comforting reflection contained in Byron's well-known lines, viz. :—

"A man must serve his time to every trade
Save censure. Critics, *all* are ready made."

VOTE OF THANKS.

MR. JOHN W. SIMPSON [*F.*]: Mr. President, Ladies and Gentlemen,—The pleasant and gracious task has fallen to my lot this evening of proposing a vote of thanks to our President for his address. It is in no spirit of empty compliment that I attempt the duty; we have listened with real pleasure to an address remarkable for that modest sincerity, touched with refined and delicate imagination, which we have long since learned to associate with the work and name of Thomas Collcutt. We can say of him, as Ben Jonson said of Verulam, "No member of his speech but consisted of his own graces.—The fear of every man that heard him was, lest he should make an end." And, may we not finish the quotation and add, "No man had their affections more in his power." It is also my pleasant duty to ask you to thank Mr. Cross for his excellent and careful review of the students' work. "His speech" was indeed "nobly censorious." Last year I was myself selected to play the part of critic, and found myself greatly troubled to preserve the balance between a too-flattering praise of Good Intention, and a narrow fault-finding with Result which under the circumstances becomes almost a public censure. Mr. Cross has steered very happily between the two difficulties "with an Inclination," like Celsus, "to the more benign Extreme," and I offer him my congratulations. This distribution of prizes to the students is always an interesting event in the annual history of the Institute, and I should like to see it become even more important than it is. The work of its students is a matter of deep concern to our body, for by its quality and by its amount we are able to take account, as it were, of the ability and energy of our recruits. As Saturn devoured his offspring, so we renew perennially our youth by absorbing our students into the ranks of our members; and, though for the present the Institute, like the Church, welcomes the tardy convert, it is upon those nurtured in its bosom that it counts for vigorous growth in time to come. A word as to the prizes themselves. Although the conditions and subjects are, I think, very judiciously composed, I confess to hesitation on one point. It is true that Travelling Studentships are greatly coveted, and that there is always a good competition for these prizes; but whether they are of unmixed benefit as at present bestowed, one may be permitted to doubt. The habit of regular work is, as we all know, difficult for the youthful artist to acquire and enormously valuable to him when gained. Yet at the very outset of his career we release our "Travelling Student" from all discipline and supervision, give him what is, by continental standards, a handsome sum of money, and off he goes—like a schoolboy on a holiday—to wander where his fancy bids him and study just such good, bad, or indifferent work as he may come across, in his own way. In some instances even this haphazard method has, I admit, produced good results; but there are too many cases where the student has returned, thoroughly unsettled, and found the heavy collar of regular work too galling for his endurance. I confess a preference for the system obtaining in France. There, the prize-winner is sent to Italy and continues his studies in the company of his brother artists, sharing their meals at the common table, and submitting to the orders of the director, himself an artist. Is it not surprising that with our huge expenditure on education we have no British "Villa Médicis"? Germany is, I believe, establishing a similar foundation; but I have not heard that our Government contemplates the provision of anything of the sort in their next Education Bill. Yet the expense need not be great, and the studentships offered by the Academy and other Societies of Artists would go far towards defraying it. The interest of the Government it is perhaps hopeless to expect; "A British School of Fine Arts in Italy" would not, I fear, be very effective as a "party cry"! But, what more splendid memorial to a rich man could there be than such an institution? Our millionaires, to do them justice, have done many noble things for the public benefit; I can only suppose that this particular idea has not occurred to them. To those among my audience who come within the category of millionaires—and I hope they are many—I commend the suggestion. Ladies and Gentlemen, I will ask you to join in a vote of hearty thanks to our President for his Address, and to Mr. Cross for his paper of criticism.

Mr. JAMES M. MONRO [*F.*] (President of the Glasgow Institute of Architects): Mr. President, Ladies and Gentlemen,—I rise with pleasure to endorse the sentiments uttered by my friend Mr. Simpson in proposing this vote of thanks. I have listened with great attention to our President's Address, and I am sure the students, as well as ourselves—the older practitioners, thank him for the warm, true, and guiding principles he has enforced in his Address to us. With regard to Mr. Cross's criticism, I have followed it very carefully. I have not yet had the pleasure of seeing the drawings—that will come to us in the North a little later on—but I feel that there has been a noble quality of work, and although not so successful as in former years, still, one has the feeling that with the education we are advancing in, the work of the future will exceed in far higher measure that of the past. I have much pleasure in seconding this vote of thanks.

THE PRESIDENT, having briefly responded, proceeded with the presentation of prizes in accordance with the award.

9, Conduit Street, London, W., *9th Feb.* 1907.

CHRONICLE.

The Prizes and Studentships 1907.

The Annual Exhibition of the works submitted in competition for the Prizes and Studentships in the gift of the Institute opened at the Gallery of the Alpine Club on Tuesday the 22nd ult., and closed on Saturday the 2nd inst. Nearly 1,400 persons visited the Exhibition. The number of competitors, including those who entered for the Essay Prize, was sixty-one, as against eighty-seven last year, and eighty the previous year. The work resulting from the tours of past years' Travelling Students—Mr. G. Drysdale (*Pugin Student* 1906), who studied in Paris, Berlin, Vienna, and Munich, and Mr. A. G. Horsnell (*Tite Prizeman* 1906), who studied in Italy—was displayed in the Meeting-room on the occasion of the Presentation of Prizes on the 4th inst.

The Royal Gold Medal 1907.

In accordance with the notice on the agenda the President announced at the General Meeting last Monday the name of the architect whom the Council propose to submit to His Majesty the King as a fit recipient of the Royal Gold Medal for the current year. The President said he was sure the Meeting and the entire profession would feel with the Council that the architect they had chosen—viz., Mr. John Belcher, A.R.A.—was the one most worthy of that high honour. They would all agree that Mr. Belcher was an architect who had continued and revived the very best traditions of the English Renaissance. He would not say anything further that evening on Mr. Belcher's merits; that would come on another occasion; he felt sure, however, that the whole profession would receive with acclamation the choice of the Council in this matter.—The announcement was received with the warmest applause of the Meeting.

The County Hall Competition: Text of Conditions.

The Conditions of the New County Hall Competition were passed by the London County Council at their Meeting on the 5th inst. as follows:—

Instructions to Competing Architects.

The London County Council, being desirous of erecting a new county hall and offices, has determined to invite architects to submit designs for the building which it is proposed to erect on a site bounded by the River Thames, Belvedere Road, Westminster Bridge, and the Council's works department, offices and depot as shown on the accompanying block plan.

1. The competition will be divided into two stages, viz.—(*a*) the preliminary; (*b*) the final. The preliminary stage will be open to architects of any nationality.

2. In the preliminary stage the professional assessors will select in private not less than ten, nor more than fifteen designs. The authors of the designs selected by the assessors in the preliminary stage, together with eight architects invited by the Council, will compete in the final stage.

3. The eight selected architects will be required to send in designs at the date fixed for the delivery of the final designs of the architects selected as the result of the preliminary stage of the competition (see Clause No. 18).

4. The designs of the successful competitors will be returned on the completion of the adjudication in the preliminary stage, to enable their authors to compete in the final stage.

5. Each architect submitting a design for the final stage in accordance with conditions will receive an honorarium of two hundred guineas (210*l.*).

6. The Council has appointed Mr. R. Norman Shaw, R.A., and Mr. W. E. Riley, F.R.I.B.A., the official architect, to act for it in this competition as its professional advisers and assessors, to draw up the instructions, and to select and recommend to the Council the architects who have sent in the designs which in their opinion are the best of those submitted both in the preliminary and final stages of the competition.

7. These two assessors will be further assisted in the final stage of the competition by a third assessor who will only act in that stage. This assessor, who will be nominated by the competitors in the final stage of the competition, will be required to give an undertaking that he did not participate in the preliminary stage of the competition.

8. It is the intention of the Council to assign to the author of the design placed first in the final stage the work of carrying out his design, and the Council has decided that Mr. W. E. Riley, the official architect, shall have discretionary power in all matters relating to internal economy, building construction, and stability. The successful architect shall obtain all the information he requires upon the site, making the necessary estimates, preparing all the necessary sketches, working drawings, detail drawings and specifications subject to the Council's approval in all matters which in the opinion of the official architect should be brought to it for decision. The successful architect shall prepare all the necessary copies of the drawings and documents for the proper execution of and use on the works, and also the drawings, &c., for the records of the Council, and exercise in conjunction with the official architect general and usual superintendence of works during progress, examine and certify the accounts for the works, and payments under the contract.

9. For these services the successful architect and the Council's official architect will be remunerated on the basis of the usual five per cent. on the total cost of the completed building, other than the work connected therewith which will not devolve on the successful architect, and this commission will be paid in the usual manner and will be divisible between the two architects in the proportion of nine-tenths to the successful architect, and one-tenth to the Council's official architect.

10. The buildings may, at the discretion of the Council, be erected in successive blocks, but no special liabilities for extra payment shall accrue through this cause.

11. The Council will employ one or more of the firms on their own list for preparing the quantities, whose fees and the lithography charges will be defrayed by the Council.

12. A clerk of works or clerks of works will be employed to superintend the work at the expense of the Council.

13. Should the building from any cause not be erected within a reasonable time after the two competitions shall have been held, the author of the selected design will be paid at the rate of one-fifth of the commission to be given for his services, the basis being his estimate of the whole cost, such amount to form part of the commission if the building is erected from his design.

14. Any competitor sending any drawings, photographs, or statement of any kind in reference to his design, or giving any clue to his identity to anyone directly or indirectly connected with the Council or its administration, to the assessors, or the public, until after the award of the assessors in the final stage shall have been officially announced, will be disqualified. The special attention of competitors is called to this condition.

15. Designs will be excluded from the competition—

(*a*) If sent in after the time fixed for receiving the designs, &c.

(*b*) If considered by the assessors as not in strict accordance with the instructions.

(*c*) If they do not provide substantially the accommodation asked for.

(*d*) If the area shown exceeds the limits of the site.

(*e*) If the assessors should determine that the probable cost of the buildings will materially exceed the outlay stated.

(*f*) If any competitor attempts to make known his identity or to influence the decision personally, or through any member of the Council or the assessors.

16. The drawings submitted in the preliminary stage of the competition will be returned under seal to their respective authors after the award, and, with the exception of the assessors, no one else (pending the final award) will be permitted to see the drawings under any circumstances during the time they are in the keeping of the Council.

17. The successful competitors in the preliminary stage of the competition, if they so desire, can amend or redraw their designs for the final stage of the competition.

18. Three calendar months will be allowed from the date the drawings are dispatched to the successful architects in which to complete their matured schemes, at the end of which time both the eight originally invited architects and those who won their position in the preliminary competition must deposit their final designs, the precise time and a date will be named by the assessors.

19. The accepted design will become the property of the Council, which reserves to itself the right of exhibiting the other designs sent in for the final stage of the competition for a limited time after the final award shall have been made.

20 All schedules, reports, writing on drawings and scales are to be in English.

21. Each design, report, schedule, packing-case, label, &c., must be unsigned and without distinctive mark of any kind, and all documents must be typewritten or printed There must be enclosed with the documents, &c., a sealed envelope (supplied by the Council) containing the name and address of the author, and these will be numbered as they are received.

22. An adhesive printed label addressed to Mr. W. E. Riley, superintending architect, County Hall, Spring Gardens, London, S.W., will be supplied with the conditions of the competition. This label must be affixed to the package containing the designs, reports, schedules, &c., and must be delivered at the competitor's own expense, not later than six months from the date on which the competition is publicly advertised. *The time stated for sending in the designs will not in any circumstances be extended.*

23. Every care will be taken of the drawings and any other documents sent in by competitors, but the Council will not be responsible for any loss of such drawings or documents or any injury or damage such drawings or documents may sustain whilst in its possession.

24. The land edged green on the block plan is reclaimed foreshore. An embankment wall will be constructed by the Council to a height of 18.00 above ordnance datum, which would be the level of the surface of the embankment. The competitors will be required to include in their scheme a design for the superstructure of this embankment wall, which is to be of granite. They are to estimate separately for this superstructure and facing the wall with granite from 2 feet below low-water level (which is minus 6.00 ordnance datum), also for all steps and ornamentation in connection with this wall required to complete their design.

25. A block plan, showing the site of the proposed buildings, accompanies these instructions, giving the levels of the site and environments above ordnance datum, which for the purposes of this competition may be taken as correct. The whole of the buildings must be provided within the area edged pink. Belvedere Road is to be widened to 50 feet between the buildings, and, as set out in an agreement between the Council and the freeholders on the east side of Belvedere Road, a copy of the clause to be observed is appended (Schedule "D").

26. For the information of competitors the site shown on the block plan is contained on the two London ordnance sheets, Nos. VII. 83 and VII. 84, scale 88 feet to an inch; these can be obtained from Messrs. Stanford and Co., Long Acre, London.

27. A sketch plan of the proposed first floor is attached, which shows a suggested arrangement of the accommodation on that floor, but it is to be regarded as merely a suggestion which competitors may modify in any way they desire.

28. A schedule of provisional requirements is included, giving the several departments to be accommodated, their approximate positions in the general scheme, the names and numbers of the rooms, &c., and their approximate areas; but these requirements are subject to revision.

29. Elevations of the London County Council Works department workshops, which are on the north boundary of the site, are also supplied for the convenience of competitors, but it is thought very desirable that each intending competitor should visit the site before preparing his design.

30. In considering the designs, the greatest importance will be attached to simple and convenient planning, and it is essential that all parts of the building should be amply lighted. The construction is to be fire-resisting material throughout.

31. Attention of competitors is invited to the London Building Acts, 1894 to 1905, with which the construction of the building should conform.

32. The hall provided in the schedule is to be planned as to means of exit, &c, in accordance with the requirements of the London County Council Theatres Regulations.

33. The choice of materials to be used for the building will be left to the discretion of the competitors.

34. The sum of £850,000 is considered sufficient to provide a substantial structure suitable for the Council's purpose, exclusive of embankment superstructure and furniture, also of any special foundation which may be necessary.

35. The site will be covered with a concrete raft, the upper surface of which will be at a level of minus 3.00 ordnance datum, and upon this raft the footings of the superstructure must rest. This concrete raft will be constructed by the Council.

36. Each competitor must accompany his design by a short typewritten descriptive report in duplicate giving all information that may be considered necessary by the competitor to fully explain his design.

37. This report is to be accompanied by a typewritten schedule in duplicate giving the areas of the accommodation apportioned to each department on each floor, and showing (1) the area of office floor space; (2) the area of space devoted to waiting rooms, storage, &c.; (3) a description of the material and mode of construction proposed to be adopted, the cubic contents of the building (such cube to be taken from minus 3.00 ordnance datum to the ceiling of the topmost story), to include all architectural features, &c., a copy of the dimensions in which the cube is based, and an approximate estimate of the cost of carrying out the design must also be supplied, together with the detail basis of their estimate, and if the value is priced at per cube foot the authority for this price is to be quoted.

38. Open fire-places are to be provided in the principal rooms, in addition to which the whole of the building is to be heated by radiators. A system of mechanical ventilation is also to be provided. Accommodation to be shown on the plans submitted for the necessary plant for both systems.

39. The object of the first stage of the competition being to obtain a good design and general scheme, full details of the construction and heating arrangements need not be shown, but the general proposals for the heating and ventilation should be described in the report, together with any other points competitors may consider necessary for the proper illustration of the scheme, but all schemes sent in at the final stage of the competition must show the intention in regard to heating and ventilating the various parts of the building.

40. The competitors are to tint the areas on each floor allocated to the various departments, as shown in the following schedule, the shade of colours given to be adhered to as closely as possible.

(*Here is inserted schedule "A," showing the shades of colours to be used in indicating the location of the departments.*)

41. Each plan is to have clearly marked thereon the areas of all the rooms, and also a schedule of the areas apportioned to each department in the bottom left-hand corner.

42. Each design must be accompanied by a declaration, signed by the competitor, stating that the design is his own work, and that the drawings have been prepared under his own supervision, in his own offices, and by his own staff. The declaration must be enclosed in the before-mentioned sealed envelope.

SCHEDULE B.

Approximate Areas of the Principal Rooms.

	Super Feet.		Super Feet.
Council Chamber	4,000	Committee Room	1,000
Lobby for "Ayes"	650	,, ,,	850
Lobby for "Noes"	650	,, ,,	1,200
Committee Room	600	,, ,,	850
,, ,,	900	,, ,,	850
,, ,,	1,000	Chairman of Council	550
,, ,,	750	Secretary	300
,, ,,	900	Waiting Room	550
,, ,,	1,200	Deputy Chairman	550
,, ,,	600	Vice-Chairman	550

Suitable accommodation, amounting in the aggregate to an area of 16,000 square feet, for the general use of members.

The library, which shall be as conveniently situated as possible to the Council chamber, and a hall to seat 800 persons are to be provided.

The whole of the principal floor is to be devoted to the accommodation as set forth in this schedule, and to the accommodation of those heads of departments (as set forth below) who should be located as near the committee rooms as possible. Such accommodation should consist of a large room about 500 super feet for head of department, a small waiting-room, and also about three rooms of approximately 350 super feet each. These areas are *not* to be included in areas required by the undermentioned departments.

Heads of departments, &c., to be accommodated on principal floor—

1. Clerk of the Council.
2. Comptroller.
3. Chief Engineer.
4. Architect.
5. Solicitor.
6. Medical Officer of Health.
7. Valuer.
8. Statistical Officer.
9. Chief Officer of the Fire Brigade.
10. Manager of Works.
11. Chief Officer of Tramways.
12. Educational Adviser.
13. Executive Officer.
14. Chief Inspector.

SCHEDULE C.

List of drawings.

The whole of the drawings in the preliminary stage of the competition are to be drawn to a scale of 16 feet to 1 inch, with the exception of the site plan showing the block plan of the new building in relation to the immediate surroundings drawn to a scale of 40 feet to an inch.

Preliminary stage of the competition—Plans of each floor, elevations of the three principal façades, sections, one longitudinal, one cross through the building, showing internal courts, &c.

No perspective drawings are to be submitted in either stage of the competition.

NOTE—(Clause 17). The successful architects can amend or redraw their designs for the final stage of the competition if they so desire.

Additional drawings for the final stage of the competition.

Sections through council chamber and main staircase Scale 8 feet to 1 inch.

Detail of a portion of one of the façades. Scale 2 feet to 1 inch.

All the plans with the exception of the block plan to be drawn on paper 52 inches by 30 inches, and mounted on strainers with a 2-inch margin.

All the drawings sent in to be in dark brown or black ink, in line only and in geometrical projection, but the plans and sections should have the sectional parts filled in solid.

In elevations, no washes, shading or hatched shadows for the purposes of embellishment will be permitted other than flat washes in the openings.

Strict compliance with these restrictions will be enforced.

SCHEDULE D.

Extract from an agreement between the Ecclesiastical Commissioners for England and the London County Council, dated 17th October, 1906—

"The said assurance shall be executed in duplicate and shall contain all such exceptions grants reservations provisions stipulations and conditions as shall be necessary for securing that the Commissioners as regards the land edged Blue on the Plan No. 1 hereto annexed but subject to the rights of the existing lessees thereof (short particulars of which are contained in the fourth schedule hereto) and the Council as regards the land coloured Pink on the Plan No. 1 hereto annexed but subject until the Council shall have acquired the same to the rights of existing lessees thereof shall respectively have power at all times without obtaining any consent from or making to each other any compensation to erect as to the Commissioners on the land

edged Blue and as to the Council on the land coloured Pink new buildings the main front walls of which may be carried up to a height of 60 feet from the pavement level next such buildings to the top of the parapet or eaves gutter as the case may be on the line of the existing frontages (which are shown upon the Plan No. 2 hereto annexed) of the said several properties in Belvedere Road shown on the said Plan No. 1 whether such buildings shall or shall not affect or diminish the light or air which may now or at any time or times hereafter be enjoyed by the Council or the Commissioners respectively in respect of the said hereditaments and that the Commissioners and the Council shall have power to deal with the architectural features and the roofs of their respective buildings next Belvedere Road in accordance with the provision contained in the London Building Act 1894 as if that Act applied to the said buildings of the Council. The said assurance shall also contain such exceptions grants reservations provisions stipulations and agreements as shall be necessary for securing that the Commissioners and the Council shall respectively have power in manner aforesaid and without obtaining any consent as aforesaid or making any compensation as aforesaid to increase the height to the top of the said parapet or eaves gutter of the buildings next Belvedere Road on their respective estates edged Blue and coloured Pink on the said Plan No. 1 to a greater height than 60 feet as aforesaid provided that for every 3 feet increase in height or portion of 3 feet increase beyond the height of 60 feet aforesaid the main front walls of the buildings to be erected on their said respective estates shall be set back 2 feet behind the existing lines of frontage in Belvedere Road aforesaid in respect of the premises of which the height shall be increased beyond the height of 60 feet as aforesaid whether such increased height shall or shall not affect or diminish the light or air which may now or at any time or times hereafter be enjoyed by the Council or the Commissioners respectively in respect of the said hereditaments and the Commissioners and the Council shall have power to deal with the architectural features and the roofs of the said respective buildings in manner aforesaid."

NOTE.—The portion of the site enclosed within the green verge is that which will be reclaimed from the river.

The part of the site of which the Ecclesiastical Commissioners were the freeholders is indicated by red stripes.

The property referred to in the above extract from the agreement as being Edged Blue on Plan No. 1 is that lying between the points A and B and Edged Brown on the Block Plan which accompanies these conditions.

The property referred to as Coloured Pink on Plan No. 1 is that which was the freehold of the Ecclesiastical Commissioners, and as stated above as shown by Red Stripes on the Block Plan which accompanies these conditions.

The extent of the Ecclesiastical Commissioners' estate on the east side of Belvedere Road, so far as it affects the Council's site, is indicated on the Block Plan which accompanies the conditions by a Brown verge.

R.I.B.A. Annual Dinner and Visit to Edinburgh.

The Council are making arrangements to hold the Annual Dinner of the Institute at Edinburgh in the month of July next.

The visit of the Institute to Edinburgh is to be extended over three or four days, and excursions will be made to various places of interest in the city and neighbourhood. The arrangements for the visit have been kindly undertaken by the Edinburgh Architectural Association.

Architectural Exhibition at Edinburgh.

The Edinburgh Architectural Association is to commemorate its jubilee year by holding an exhibition in the rooms of the Royal Scottish Academy, Edinburgh, during July and August next. The exhibition will be limited to work executed in the course of the past fifty years by Scottish architects, with the addition of such old or special work as the committee may consider of sufficient interest. It is desired to include in the exhibition photographs and drawings of work that has been completed, and the committee will have discretionary powers to admit exhibits of the applied arts, as designed and controlled by the architect, if available floor space permits. Architects and others who have photographs and drawings which they consider of sufficient interest to be included in the exhibition are asked to communicate with the Exhibition Secretary, Mr. John McIntyre, 28 North Bridge Street.

Architecture in the United States.

An interesting Paper, descriptive of the tendencies of modern architectural design in the United States, and of the training of the young American architect, was delivered before the Architectural Association on the 25th ult. The author was Mr. R. Clipston Sturgis (of the firm of Messrs. Sturgis & Barton), Vice-President of the Boston Society of Architects. The following is an extract :—

After 1865, with the establishment of peace, and the rapid growth of prosperity, people had once more a chance to pay some attention to the Fine Arts. There was an enormous demand for buildings, and those who in the seventies were thinking of architecture as a profession had the assurance that the well-equipped and well-trained architect had before him a great career. Our own architectural schools were in their infancy; but one or two had already begun to do good work at that time. The Ecole des Beaux-Arts at Paris offered the best opportunity for sound training. Our people have always felt kindly to France, and have admired her position in the world of fine arts. To Paris, then, our students went to receive sound training on Classic lines. At the same time attention was again directed, chiefly through English influences, to the value and beauty of mediæval work. You know what that was in England, and how Ruskin and a host of saner followers of that great enthusiast reawakened in the hearts and understanding of all English-speaking people the marvellous treasures of the centuries that preceded the Italian Renaissance. With eyes newly opened our people began to see the sound commonsense beauty of the simple classic work of our forefathers. Queen Anne and Georgian work and the buildings of the early days of independence once more received the attention and reverence they deserved. A small but growing body of men began to stem the tide of horrors which had resulted from an ignorant and unreasoning demand for something new, something American, something which was not part and parcel of the effete civilisation they fancied we had left behind.

Added to this new self-respect for our past came a reawakening sense of the treasures of architectural history in mediæval times. It was like discovering a virgin field, so long had it lain fallow, and it was entered on with the

greatest enthusiasm. Students returning from abroad had their sketch-books packed with picturesque and often very cleverly drawn sketches of French manor and farm houses, Romanesque work from the South of France, Early Italian work, the vigour of Tuscan palaces, the subtle beauty and gorgeous colour of the South and of Constantinople, and the Gothic of France and England. It was a surfeit of good things, far more than we were able to digest. The result at first was a host of miserable failures, and, to offset this, a few brilliant successes. The few successes were, however, a great stimulus to the students following, and to those already at work. Each succeeding year saw the students begin work better equipped, and the men in active practice gained knowledge rapidly through great opportunities, and by failure as well as by success.

A nation with so little in the way of architectural inheritance, and with so few conservative tendencies, must necessarily be open-minded to new impressions. The American student abroad is constantly envying the greater opportunities which Englishmen have. They envy them not alone nor chiefly for the architectural treasures that surround them at home, for the wealth of precedent that guides them aright in English ways, but for the handy continent, France and Holland across the Channel, Italy but a few hours' journey further on, so that a short holiday may at any time put the English architect in the midst of the best examples of architecture in the Western world. But, as a matter of fact, one is inclined to think that the American student, when he does cross the Atlantic, sees with more open eyes, and profits more readily from what he sees, and so is better off than the Englishman. Nor need he really envy those who live in the midst of the treasures of the Continent. The Frenchman may go to Italy to study, but does not often trouble himself to seek architectural knowledge in England or Holland. The German may travel in France and Italy, but apparently profits little by such experience. But the American student goes everywhere with the eager eye of one to whom all is new and wonderful. No native bias, no prejudice, no conservative respect for the work of his own people hampers him in his study.

This is a great advantage. Another equally great is that architects in the United States are largely drawn from the class who have the means for a thorough education as a foundation. To limit a gentleman's occupation to the Army, the Navy, and the Church would be utterly unintelligible to an American. The Church here undoubtedly holds an important place in the community; but that could not be said of the Army and Navy. Nor is diplomatic service as yet looked upon as an important and interesting field for the well-educated and ambitious man. Those who, in England, are by birth entitled to the best education are attracted to occupations which seldom tempt us. The result is that professions like architecture, medicine, and the law are filled by the best-educated men. Architecture, as a profession, is as highly esteemed as the law, and rather higher than the occupations which, until recently, were looked upon as the only ones available for an English gentleman's son. The students who go abroad are generally men well equipped intellectually to take full advantage of the opportunities offered them. The result of this with us has been twofold. The lack of established precedent and the wealth of ideas accumulated by study abroad have had the effect of urging our people to new effort, and our confidence in our great and prosperous future has helped us to believe that we would develop a new style of architecture—something American, something quite our own. On the other hand, the study of the fine old examples has encouraged a sincere and deep-rooted admiration of the masterpieces of the past, and a wholesome modesty as to our ability to equal them by anything that does not follow closely on the precedents of the past. Both phases have had their development here, and one is inclined to think that the sober sense of the present generation sees good in both points of view, but is far more governed by the former. That is, we may in time develop something especially adapted to modern use—the many-storied structure on immensely valuable land may bring its logical solution. The modern methods of construction – the steel skeleton—reinforced concrete—may lead us to new expression; but, if we do so develop, it will be along the lines of the sound planning of the schools, the reasonable laws of construction and decoration that have been exemplified and proved in all the work of the past, and that have stood the test of time.

The best architectural work of the past decade in America is not new, is not American, but is conservative; more conservative, one ventures to say, than much of the work of France, with its Exposition style of architecture influencing work that is worthy of a more serious treatment; more conservative than Germany, with its often grotesque strivings for an art that is new; more conservative than England, whose civic architecture has neither advanced Mediæval development from the point at which Pugin placed it when the Houses of Parliament were built, nor improved on the Classic sobriety and dignity of St. George's Hall in Liverpool.

American architects have been influenced more or less by all the architectural experiments of the Continent, and have had their own vagaries of experiment. Richardson dug into the treasures of Romanesque work, and conceived and executed one or two noble buildings with the spirit of the past and a certain modern vitality; but the experiments conducted by his numerous followers brought disgrace and obloquy on the style. Only in the backwaters of civilisation is it attempted now. The decorative motives of India and the Far East were taken by some as the proper form in which to clothe a skeleton structure—the ornament to be truly superficial rather than structural—a sound enough theory. But the experiments along this line were more interesting than convincing. Modern French has set its rather loud and often vulgar mark on much of our municipal and domestic work in the great cities. The debased examples of this, however, have been such a warning to the leaders in this movement that the work of these leaders is tending to the quietest, simplest, and most refined expression of French art; indeed, the best work of this class is almost more closely akin to the precedents of Italy—the Renaissance fountain-head—than to those of France. English Gothic, especially its collegiate phase, has found its expression here, and with the chastened memory of the early American barbarities in this style, and a grateful affection for such sound old-school examples as Trinity Church, New York, the development here has not departed much from sound precedent, but in a general way tends toward what might have been expected if Gothic had continued its natural course.

Mr. Walter Cave, who presided at the Meeting, in the course of some remarks following the discussion gave the audience some notion of the extraordinary conditions under which architectural designing is produced in American offices. The noise and bustle which takes place, and the extraordinary amount of work which has to be got through, make anything like careful thinking impossible. It is not unusual to have a hundred men in one office. Competition for work is tremendous. Drawings have to be sent in a few days after instructions are received. A client goes to an architect and asks him to do a design, and if it cannot be produced in a week or less he tries someone else, and he might even go to a

third in order to get it in less than that time. The designs, too, have to be done with extraordinary finish. Out of the five per cent. paid, seventy-five per cent. is swallowed up in office expenses.

Colour in Architecture.

The *World* is admitting lately into its columns some articles on modern domestic architecture under the title "Houses of To-day," selecting as illustrations recently built houses in and about London. The current number has an article, "Colour in Architecture," consisting mainly of an appreciation of the house No. 8 Addison Road, built from Mr. Halsey Ricardo's designs. Most people are susceptible to colour. In some the emotions are as deliciously stirred by colour as in others by music. Professor Aitchison, in a delightful passage of one of his Royal Academy Lectures, says:—"By the general consent of mankind the arrangement of certain colours in certain proportions causes delight; in fact, for the bulk of mankind, Nature has made almost every visible phase of earth, air, fire, and water beautiful by colour. When we go into the country for delight, what is it we go for? I will not exclude the song of birds, the lowing of cattle, the murmur or roar of the sea, the babbling of brooks, the thunder of waterfalls, nor the sighing of trees; I will not omit the scent of the may-blossom, nor of the traveller's joy, nor the new-mown hay; but still it is mainly to feast our eyes on the beauty of colour. Every poet and every rhapsodist has sung or descanted on the beauties of trees, flowers, meadows and mountains, seas and rivers, lakes and waterfalls, of the moon, of the starlit sky, of the sunshine, and of the clouds, from Homer's 'rosy-fingered Aurora' to a 'looming bastion fringed with fire.' Shelley says 'men hardly know how beautiful fire is,' and the story-teller of the *Arabian Nights* compares the violet to sulphur burnt in the fire. What is the exciting cause of 'those gilt gauds men children run to see' but the hunger after colour?" [JOURNAL R.I.B.A., 29th August 1903.]

The writer in the *World*, walking through our familiar, dun-coloured roads, with hardly a tint to be seen anywhere which rises above monochrome, tells us that he experiences quite an uplifting of the senses on the discovery that in this grey locality (Addison Road) is a bright, animated structure built of materials which resemble and almost rival the colouring of Persian tiles. The general effect he describes as a combination of brilliant blue and green glazed bricks, held together in a general frame of cream glazed terra-cotta. The roof is of green glazed tiles. Much of the beauty of effect is obtained by the clever choice of bricks and tiles, differing in shade but similar in colour. No attempt has been made to insist upon exact matching of tints, but rather has the waywardness of the glaze been taken advantage of and made to serve an artistic end. Mr. Ricardo thus expresses himself on the subject of his innovation in an interview reported in the *World*:—

"For nearly twenty years," he says, "I have been advocating the desirability of using weather-resisting materials for building in towns such as London, where the corrosion from the atmosphere is destroying the ordinarily accepted stone, bricks, &c. Now, in practice, this means the use in their place of glazed and coloured materials, such as glazed terra-cotta and glazed bricks. The house in Addison Road is the third I have built in this way, No. 8 George Street, Westminster, being my first attempt, made with red bricks, twenty years ago. But this latest example is, I consider, an advance on the others, in that it is designed in terms of different colours as well as in terms of mass, light and shade, proportion, &c. The building is, I believe, as proof against the acids and soot of London air as a soda-water bottle, and even more durable. Inside, as far as possible, the same principle of dirt defiance has been followed."

"Your appeal, then, is not only on æsthetic, but also on hygienic grounds?"

"Exactly. I am prepared to back up the doctor in a practical way in his crusade against germs by the erection of buildings almost impervious, inside as well as out, to the very home of the germ, which, as we all know, is dirt. The house in Addison Road is provided with a complete installation of suction tubes, through which the dust of the household is drawn away daily with the greatest ease and efficiency. There is no necessity for spring cleaning, with its attendant expense and discomfort, for the house will never get into such a condition that it will need this uncomfortable experience. The periodical expense of painting the exterior walls will be unknown."

"And as to expense in the first instance, how does that compare with charges in the ordinary way?"

"Of course, it should be remembered that the first houses to be put up must of necessity be rather more expensive than subsequent erections, for much of the material now has to be specially obtained. But this has not been an expensive house. The cost of facing the building with glazed and coloured materials has been a little more than 5 per cent. beyond the cost of facing it with stone and brickwork to the same design, and one may set against this extra cost the advantage of having an incorrodible exterior, of which the maintenance is nil."

"But about the tiles inside. Will they not make houses rather chilly?"

"Pure imagination. We are so used to white tiles, which have a cold, comfortless colour, that it is difficult to realise that a tiled house can be warm. After all, Turkish baths are nearly always tiled.

"My chief hope, however," concluded Mr. Ricardo, "is from the civic authorities, who may be persuaded of the advantages of building in coloured and glazed materials. Some people take objection to the shiny surface; but they seem to forget that half the area of the fronts of scores of houses under present conditions consists of glass windows, which give all shine and no colour. To treat a single house with bright colours in a row of Portland stone or brick buildings would be a mistake; but a crescent or square in colour throughout would be admirable."

Carpenters' Hall Lectures, 1907.

The Worshipful Company of Carpenters have arranged for the delivery of the following Lectures on the dates stated:—February 14, "Old and New London Bridge," by Mr. Chas. Welch (Chairman, Viscount Dillon); February 21, "The City Churches, their History and Architecture," by the Rev. J. Stephen Barrass, Rector of St. Lawrence Jewry (Chairman, the Bishop of Southwark);

February 28, "The Palace of Minos," by Dr. Arthur J. Evans (Chairman, Lord Avebury); March 7, "English Architecture in the Seventeenth Century, and the English Country House," by Mr. C. R. Ashbee (Chairman, Lord Addington); March 14, "The Wallace Collection," by Mr. M. H. Spielmann (Chairman, Sir L. Alma-Tadema, O.M., R.A.); March 21, "Coppice-with-Standards, and Larch Woods," by Professor W. R. Fisher. The lectures will be illustrated by lantern photographs. Admission is free by ticket, to be obtained from Mr. J. Hutton Freeman, Clerk to the Company.

REVIEWS.

PARTY-WALLS.

Party-walls and the rights and liabilities of adjoining owners in relation thereto at Common Law and under the London Building Act 1894. *By A. R. Rudall, Barrister-at-Law. Price* 7*s.* 6*d.* [*Jordan & Sons*, 1907.]

The full title of this book has been quoted in order to show that it deals, not only with party-walls in the metropolis, but also with those outside where, as a rule, there are no statutory provisions, and the rights of adjoining owners rest only on agreements or on the common law.

The author, being a barrister, treats his subject from the legal point of view alone, *i.e.*, he takes the decided cases (outside London) and comments upon the position they set up; and in London he compares the words of the Building Act with the decisions relating to each section, and adds opinions (presumably his own) on the probable legal effect of the clause in cases which have not yet been the subject of a suit.

The first portion occupies some twenty-eight pages, and deals very fully with many points of dispute which have arisen, or might arise, in reference to walls separating the premises of different owners outside the metropolis. The points are clearly put, and every decided case is either quoted or referred to, so that the details can be studied in the law reports. A careful study of this chapter would be of great assistance to any architect engaged in country or suburban practice who may be called upon to build, rebuild, or alter premises adjoining a party-wall. The lesson of the cases seems to be that a definite agreement as to the user of the wall is desirable in all cases, and forms for making suitable arrangements are given at the end of the book.

Chapter II. deals with the area covered by the London Building Act, and extends to sixty-three pages, apart from the appendix. The method of treatment (as indicated above) is to quote the sections of the Act dealing with party-walls and discuss them *seriatim* from a purely legal standpoint. The information thus provided is well worth the careful attention of the most experienced architects and surveyors, the points being put with the same precision and clearness that are characteristic of Chapter I. The sections of the Act not quoted in the text are given in the appendix. When all has been said, however, it is impossible to avoid a feeling of regret that the author should have confined his treatment of this important subject within such narrow limits. His preface indicates that the book is meant chiefly for the legal profession, and such expressions as "the question for the jury" (p. 43) seem to confirm this view. The author adds, however, that he hopes the book may be of use to architects and surveyors, and from either point of view it seems strange that there is no reference whatever to the ordinary practice in London by which the questions to be determined are mostly settled by surveyors (as intended by the Acts of 1855 and 1894); and it is only rarely that it is necessary to consult a solicitor, and still more rarely that a case comes into court. It is not evident whether the author consulted a surveyor when preparing his treatise, but the probability is against the supposition. The word "surveyor" does not appear in the index, and is rarely mentioned in the book except when quoted from the Act. The surveyors are twice called "arbitrators"—a word never used in the Act—and the immense importance of their duties and the dangers they have to avoid are not alluded to at all. The cases quoted are sometimes referred to so briefly that their effect is not apprehended, as in that of *Hobbs* v. *Hart* (p. 61). The practical result of this decision is that it is desirable in nearly all cases to annex drawings to the notice; but this is not mentioned, and neither "drawings" nor "plans" appear in the index. In London premises the question of ownership is often decided by a plan, and plans of old or new work have a bearing on the points in dispute which no surveyor can afford to overlook.

The important questions arising in notices are not touched on, and no forms of notice, of appointment of surveyors, or of third surveyors are given in the appendix, nor is it suggested that such forms are in daily use. The question, for instance, whether it is always necessary to serve notice under section 93, where a wall is underpinned, and the reason why adjoining owners want such notices are not mentioned, nor is the question of "owner" discussed so as to have a practical result, as the number of owners entitled to notice is not dealt with. Some surveyors insist that as the Act mentions "owner," not "owners," only one notice is necessary; others serve notices on everyone whose rooms adjoin the wall—often a serious and expensive matter in the case of city offices—and one would like a barrister's opinion as to which is right.

To mention these points is not to disparage Mr. Rudall's book, but to indicate that it might have been made more useful; and if his publishers (*pace* a great dispute) will allow him to sell his first edition quickly, a second one, written with fuller recognition of the surveyor, may be looked for with pleasurable anticipation.

R. LANGTON COLE.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1906–07, held Monday, 4th February 1907, at 8 p.m.—Present, Mr. Thomas E. Collcutt, *President*, in the Chair, 51 Fellows (including 16 members of the Council), 56 Associates (including 1 member of the Council), 2 Hon. Associates, and numerous visitors—the Minutes of the Meeting held 21st January 1907 [p. 204] were taken as read and signed as correct.

The following Fellows, attending for the first time since their election, were formally admitted by the President:—James Davidson and William George Blackmore Lewis.

The President announced that the Council proposed to submit to His Majesty the King the name of Mr. John Belcher, A.R.A., *Past President*, as a fit recipient of the Royal Gold Medal 1907, for his executed works as an architect.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election—viz. As FELLOWS (17): Thomas Ballantine; Walter Richmond Butler (Melbourne, Australia); Alexander Lorne Campbell (Edinburgh); Frederic Wykeham Chancellor, M.A. Oxon.; Francis William Deas, M.A. (Edinburgh); Wilberforce Ernest Hazell [*A.*]; John Ross McMillan (Aberdeen); Percy William Meredith [*A.*]; Sidney Vincent North [*A.*]; Harry Dighton Pearson [*A.*]; John Sansom (Liskeard); John Nichol Scott (Edinburgh); Edwin Summerhayes (Perth, West Australia); John Robert Sutton (Buenos Aires); Arnold Thornely [*A.*] (Liverpool); Thomas Francis Tickner (Coventry); George Watt (Aberdeen). As ASSOCIATES (49): Archie James Thomas Abel [*Probationer* 1904, *Student* 1905]; Walter Thomas Armstrong [*Special Examination*] (Lancaster); Thomas Simons Attlee [*Probationer* 1902, *Student* 1904]; George Sydney Herbert Bradford [*Probationer* 1903, *Student* 1906] (Cape Town, S. Africa); Ernest Barraclough Crossley [*Probationer* 1893, *Student* 1904] (Nottingham); Thomas Lawrence Dale [*Probationer* 1900, *Student* 1903]; Hugh Alexander Dalrymple [*Probationer* 1903, *Student* 1904]; Noel John Dawson [*Probationer* 1900, *Student* 1905] (Chelmsford); Alexander Cochran Denny [*Special Examination*] (Dumbarton); Colin Minors Drewitt [*Probationer* 1902, *Student* 1904] (Southport, Lancs.); Percival Maurice Fraser [*Probationer* 1903, *Student* 1904]; James Theodore Halliday [*Probationer* 1901, *Student* 1903, *Ashpitel Prizeman* 1906] (Southport); John Horner Hargreaves [*Probationer* 1899, *Student* 1904] (Manchester); Dudley Parkes Hayworth [*Probationer* 1900, *Student* 1903]; Joseph Reginald Hobson [*Probationer* 1901, *Student* 1904]; William Ashford Hodges [*Probationer* 1901, *Student* 1902]; John Nixon Horsfield, Jun. [*Probationer* 1901, *Student* 1903]; Claude Elborne Howitt [*Probationer* 1900, *Student* 1903] (Nottingham); Sydney Jaques [*Probationer* 1901, *Student* 1903]; George Thiale Jell [*Special Examination June* 1906]; Norman Jones [*Probationer* 1903, *Student* 1904] (Southport, Lancs.); Percy Hubert Keys [*Probationer* 1901, *Student* 1903]; Herbert Langman [*Probationer* 1901, *Student* 1902] (Southport); Leonard Arthur Loades [*Probationer* 1897, *Student* 1901] (Morpeth); Rowland Arthur Loveitt [*Probationer* 1900, *Student* 1902 (Coventry); Charles Ernest Lovell [*Probationer* 1900, *Student* 1902; William Godfrey Milburn, B.A. Oxon. [*Probationer* 1896, *Student* 1898]; Philip Minor [*Probationer* 1898, *Student* 1904] (Manchester); Charles Leonard Thomas Morgan [*Special Examination*]; Alan Edward Munby, M.A. Cantab. [*Special Examination*]; Norman Toller Myers [*Probationer* 1899, *Student* 1902]; George Nott [*Probationer* 1903, *Student* 1904] (Leicester); Cecil Henry Perkins [*Probationer* 1899, *Student* 1904] (Carlisle); Arthur Patrick Hector Pierce [*Probationer* 1901, *Student* 1903]; James Campbell Reid [*Special Examination*] (Glasgow); Haydn Parke Roberts [*Probationer* 1899, *Student* 1903] (Horsham); Percy Tom Runton [*Special Examination*] (Hull); William Thomas Sadler [*Special Examination*]; Isaac Taylor Sifton [*Probationer* 1900, *Student* 1902]; John Myrtle Smith [*Probationer* 1889, *Student* 1904]; Digby Lewis Solomon, B.Sc.Lond. [*Probationer* 1902, *Student* 1903]; Andrew Kerr Tasker [*Probationer* 1894, *Student* 1898] (Newcastle-on-Tyne); Ralph Windsor Thorp [*Probationer* 1901, *Student* 1904] (Headingley); Frank John Toop [*Probationer* 1899, *Student* 1901]; James Irving Tweedie [*Probationer* 1900, *Student* 1902] (Ecclefechan); Charles Paget Wade [*Probationer* 1902, *Student* 1904] (Yoxford); Fred Wade [*Probationer* 1900, *Student* 1905] (Bradford); Arthur Fred Wickenden [*Probationer* 1899, *Student* 1903]; William Barnet Wyllie [*Probationer* 1903, *Student* 1904].

The President delivered an ADDRESS TO STUDENTS.

Mr. A. W. S. Cross, M.A. Cantab. [*F.*], delivered a CRITICISM OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1907.

A vote of thanks to the President and to Mr. Cross, moved by Mr. John W. Simpson [*F.*] and seconded by Mr. James M. Monro [*F.*], was carried by acclamation.

The presentation of prizes was made by the President in accordance with the Deed of Award, and the various Students introduced, as follows:—

ESSAY MEDAL.

Institute Silver Medal and Twenty-five Guineas to Mr. Victor D. Horsburgh.

Certificate of Hon. Mention to Mr. A. Halcrow Verstage.

MEASURED DRAWINGS MEDAL.

Certificate of Hon. Mention to Mr. David Robertson.

Mr. Wynn Owen [*A.*], to whom a Certificate of Hon. Mention had been awarded for work submitted for the Measured Drawings Medal, on being called upon to receive the Certificate, went up to the table and explained to the President that he had withdrawn his drawings and must decline the Certificate. The presentation then proceeded:—

SOANE MEDALLION AND £100.

The Medallion to Mr. Harold Cooper.

Certificate of Hon. Mention and Ten Guineas to Mr. Anthony R. Barker.

Certificate of Hon. Mention and Ten Guineas to Mr. A. J. Pitcher.

OWEN JONES STUDENTSHIP AND £100.

Certificate to Mr. Arthur R. H. Jackson, *Owen Jones Student* 1907.

PUGIN STUDENTSHIP.

Mr. A. J. Margetson introduced as the *Pugin Student* 1907.

TITE PRIZE AND £30, AUGMENTED BY £20 FROM THE WIMPERIS BURSARY.

Certificate to Mr. G. Salway Nicol.

Certificate of Hon. Mention and Ten Guineas to Mr. P. Napier Hemy.

ARTHUR CATES PRIZE.

Forty Guineas to Mr. W. W. J. Calthrop.

GRISSELL GOLD MEDAL AND TEN GUINEAS, AUGMENTED BY TEN GUINEAS FROM THE WIMPERIS BURSARY.

The Medal and Twenty-one Guineas to Mr. W. A. Mellon.

ASHPITEL PRIZE.

Books value £10 to Mr. J. T. Halliday, *Ashpitel Prizeman*.

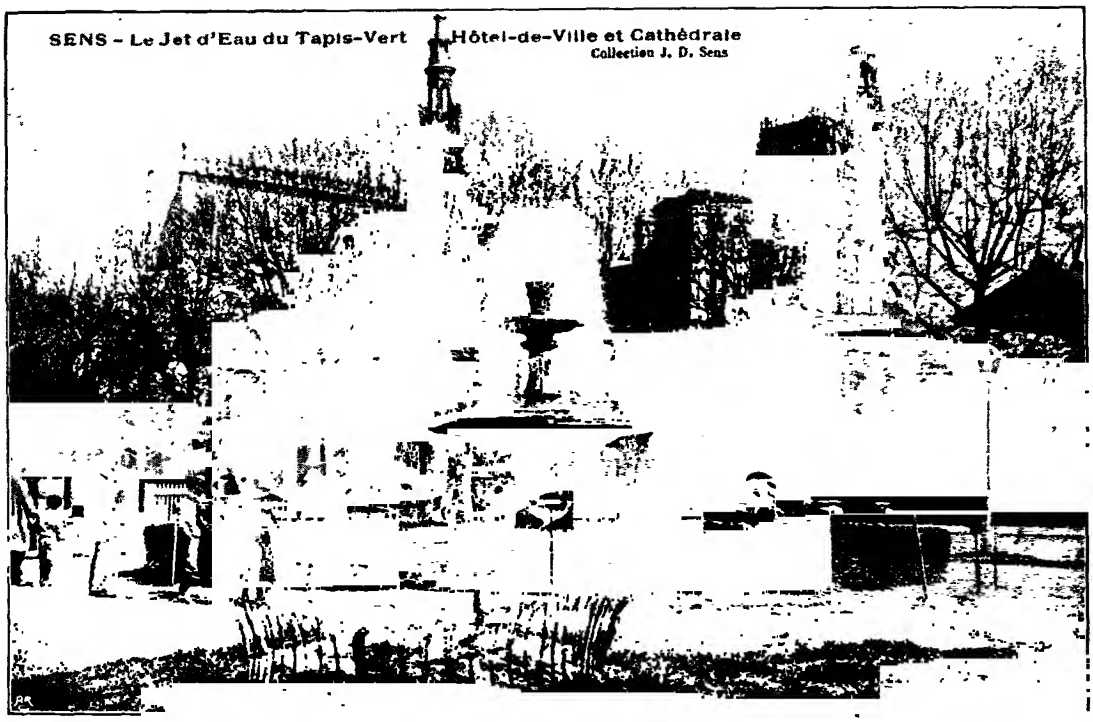
GODWIN BURSARY 1906.

Medal and £35 (second instalment) to Mr. H. Inigo Triggs.

PUGIN STUDENTSHIP 1906.

Medal and £40 to Mr. G. Drysdale.

The proceedings then closed, and the Meeting separated at 9.45 p.m.



HÔTEL DE VILLE AND CATHEDRAL, SENS, AS SEEN FROM THE PUBLIC GARDENS.

MODERN TOWN-HALLS OF FRANCE: THEIR PLANNING, DECORATION, AND EQUIPMENT.

[*From the Godwin Bursary Report* 1905.]

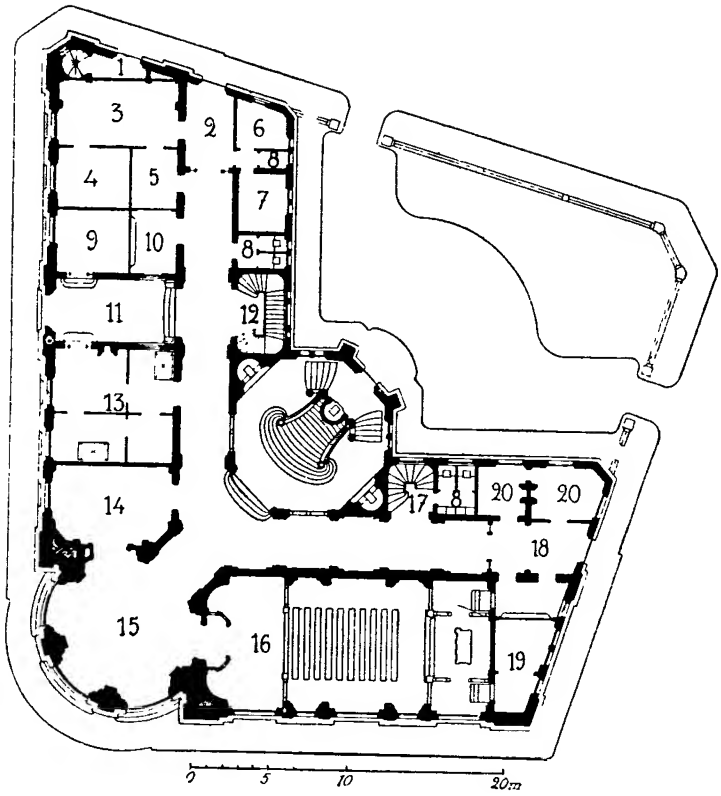
By Fredk. R. Hiorns [*A.*], *Godwin Bursar* 1905.

PART IV.—THE HÔTEL DE VILLE, SENS (YONNE).

THE town of Sens, in the department of Yonne, situated about sixty-five miles S.E. of Paris, is of great historical interest, full of quaint streets and picturesque buildings. The river Yonne passes through it and adds much to its beauty. Remains of walls of Gallo-Roman construction still surround it from which have been removed portions of columns, cornices, sculpture, inscribed tablets, and other fragments now deposited in the local museum, and many more Roman antiquities are to be found in various parts of the town. It became the seat of an archbishopric on the establishment of Christianity in the Empire, and its cathedral, founded early in the twelfth century, is one of the most interesting in France—somewhat similar in type to Notre-Dame of Paris, though smaller in size. In it is the mausoleum of the Dauphin, son of Louis XV. and father of Louis XVI., Louis XVIII., and Charles X.

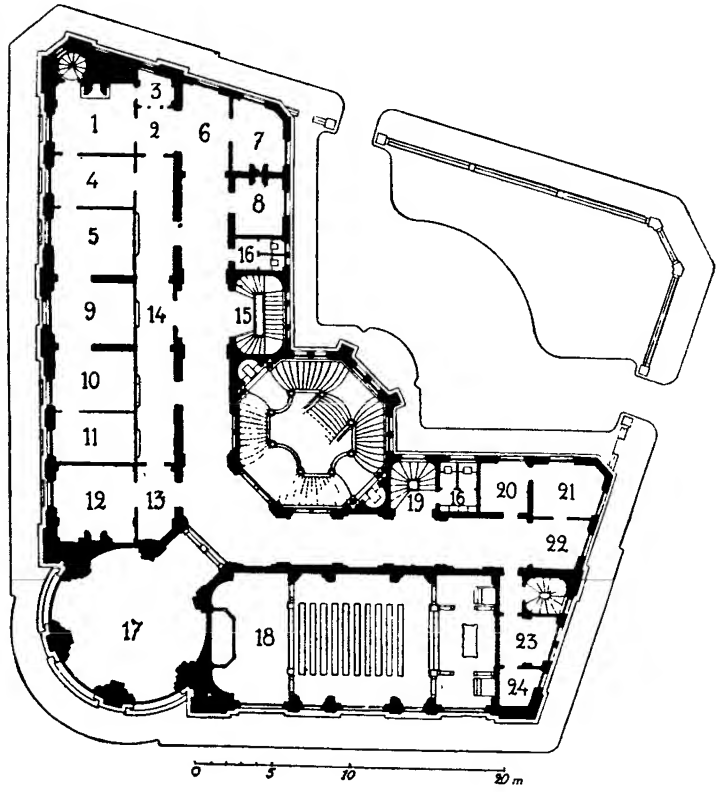
St. Thomas à Becket fled from England to Sens in 1164, and his vestments are still preserved in the Cathedral, where also, in the chapter-house, is a painting representing the scene of his death. The wrought-iron gates and screens of this cathedral are of remarkable beauty and workmanship.

The old Hotel de Ville, a Renaissance building of some interest, has now become the local museum and picture gallery. Many fine paintings and other objects of art are to be found



HÔTEL DE VILLE, SENS: GROUND-FLOOR PLAN.

1, Mayor's Private Entrance and Staircase; 2, Police Entrance; 3, Post; 4, 5, Commissaire; 6, 7, Police Station; 8, Lavatories; 9, 10, Receiver's Offices; 11, Entrance to Offices; 12, Staircase to Offices; 13, Concierge; 14, Meeting-room; 15, Principal Entrance to Vestibule; 16, Court of Justice of the Peace; 17, Officials' Staircase 18, 19, Document-room; 20, Judge.



HÔTEL DE VILLE, SENS: MEZZANINE FLOOR.

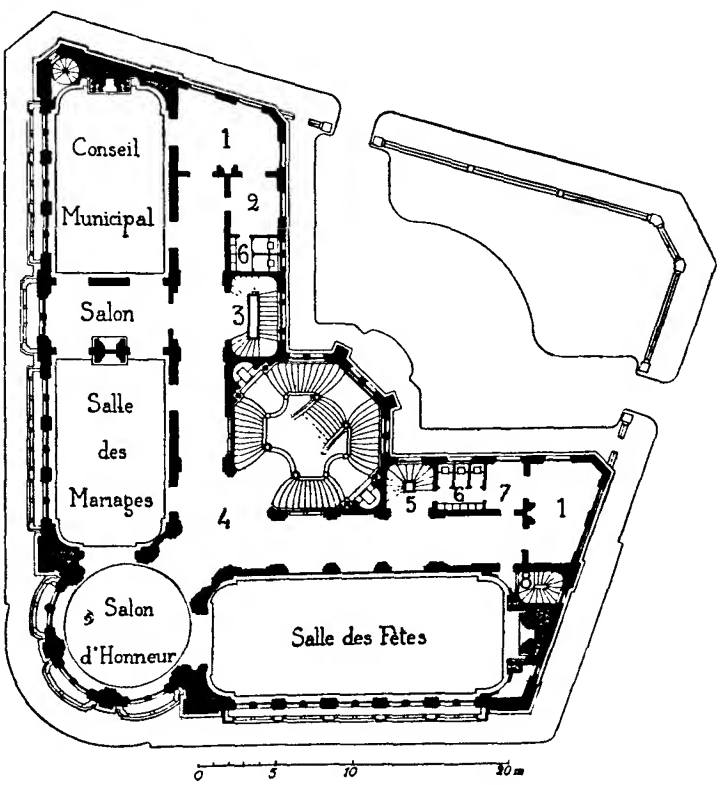
1, Mayor, 2, 3, Ante-rooms; 4, 5, Secretary's Offices; 6, Office Attendant; 7, 8, Adjoints; 9, Civil Administration; 10, Military Bureau; 11, Assessor of Taxes; 12, 13, Poor Relief; 14, Service Corridor; 15, Staircase; 16, Lavatories; 17, Vestibule (upper part); 18, Upper part of Court; 19, Staircase; 20, 21, 22, Inspection of Highways; 23, 24, Octroi.

there, but the collection is chiefly notable for the fragments of ancient and mediæval architecture, including much Roman work, with which it is stored. Most of the Gothic remains have been taken from former Sens churches now destroyed.

The present population of this charming old-world town is about 14,000 persons.

The Hôtel de Ville is on one side of the Cathedral "place," and the spire of the new building groups not unhappily with the Cathedral towers. The design of MM. Dupont and Poivert, of Paris, was selected in competition in 1901, and the structure completed under their direction in 1904. The excellent planning of this building is its most noteworthy feature, and is well shown on the fine working drawing of the first-floor plan, provided—together with the diagonal section through the angle of the building—by the courtesy of the architects. Special attention is drawn to these drawings (reproduced here to a large scale) as interesting examples of working drawings executed by our French *confrères*. The clear draughtsmanship and careful figuring-up of the plan as here shown should render the actual setting-out of the building on the site a comparatively simple matter. The main axial lines of the plan are well emphasised, and the angles of inclination, centres and radii of curves, and the principal and minor subdivisions of the rooms, staircases, corridors, windows, doors, fireplaces, niches, &c., given with such precision as hardly to admit of a doubt as to the position or dimensions of any feature. The relation of the circular entrance vestibule and Salon d'Honneur over, at the angle of the building, to the principal staircase and reception-rooms will be noted as a specially skilful piece of planning.

The section shows the general construction of the building, and the decorative embellishments are given with perhaps greater completeness than is customary in England. If one may be critical, the ornament is to English taste overdone and lacking in refinement. The



HÔTEL DE VILLE, SENS: FIRST-FLOOR PLAN.

1, Committee Rooms; 2, Cloak-room: 3, Staircase; 4, Vestibule and Reception Gallery; 5, Officials' Staircase; 6, Lavatories; 7, Cloak-room; 8, Service Stairs.

section shows, too, the more important height dimensions of the building, and, as a constructive expedient not often employed, the concrete piling on which in this case the superstructure has been raised.

The exterior design may be judged from the photographs and drawings. The bulk of the facing is of Charentenay stone, the plinth being of roche de Comblanchien, both being, in strong sunlight, of an almost painful whiteness just now. The sculpture appears to have been executed by the Société des Sculpteurs.

HOTEL DE VILLE, SENS.

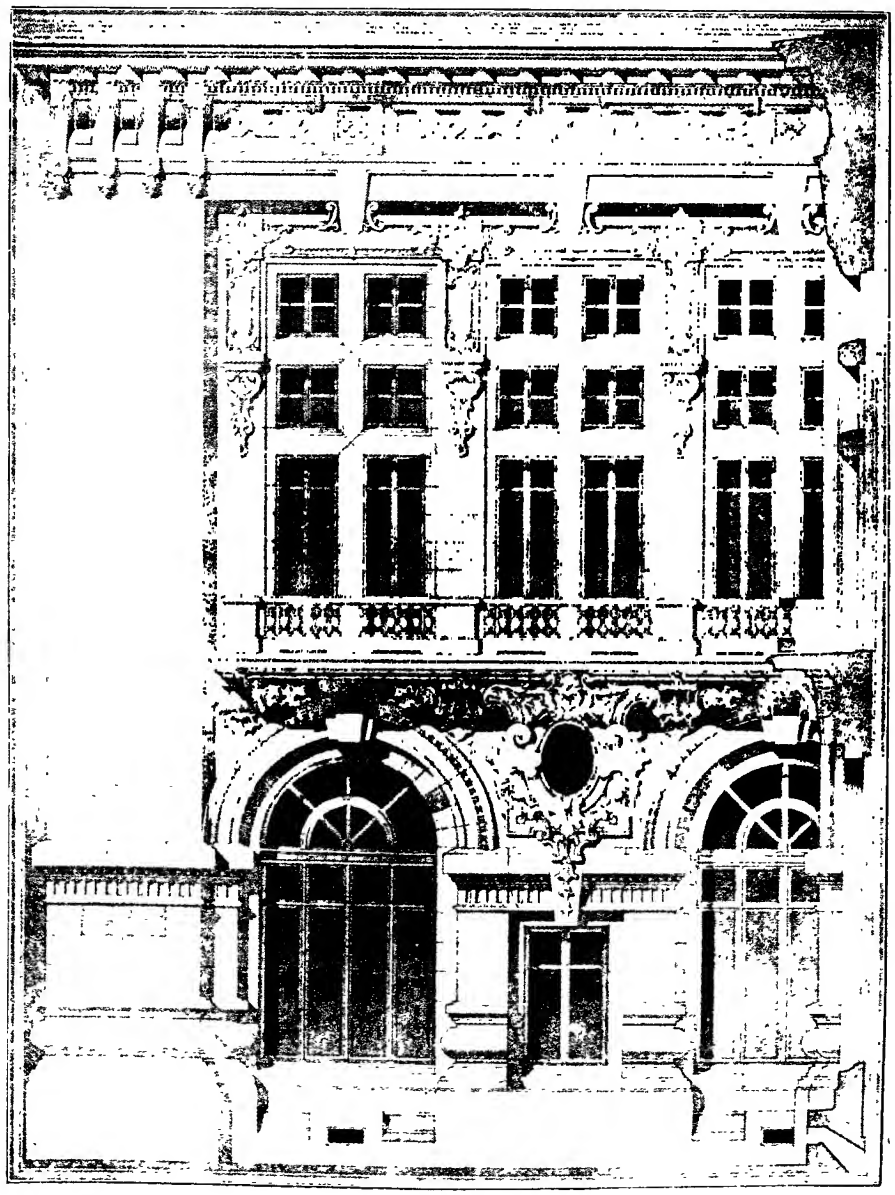
The general arrangement of the various departments will be seen by a reference to the plans.

The principal entrance and Vestibule d'Honneur is used for fêtes and weddings only and is of circular plan. The large entrance doors have iron grilles on their face with glass behind, a common practice in public buildings in France. The walls and domed ceiling are finished in stucco plaster, with the architectural features and elaborate enrichments boldly modelled. No colouring has been attempted as yet to this or to the walls and ceilings of the grand staircase and the upper Vestibule des Fêtes (first floor). The floor of the vestibule and that of the staircase hall adjoining are of white mosaic, with a plain black border about a foot in width. The doors here, and those off the upper vestibule also, are apparently of oak, but for some curious reason have been painted and grained. The central pendant lamp is of polished brass.

Opening off the right of the vestibule is the Court of the Justice of the Peace, with walls and elliptical barrel ceiling (with groined intersections from the window heads, and the blank arcading at the sides) finished in uncoloured stucco plaster as before. The ceiling ribs and other portions are emphasised by modelled enrichments. The benches and seating are of oak and treated very plainly. The floor also is of hardwood. The Judge and advocates occupy the daïs, the lawyers the benches in front of the seating for the public, the Press reporters those at the sides. The pendant gasoliers are of polished brass. This hall is also used for voting purposes in municipal elections. The rooms of the Judge, the Justice of the Peace, the Registrar, and the concierge open off the corridors to the right and left at the foot of the principal staircase. The Police Department is also accommodated on this floor.

The principal administrative offices, together with the private rooms of the Mayor and the Adjoints, are on the mezzanine between the ground and first floors.

The Escalier d'Honneur, or principal staircase, is prettily planned. The walls and enriched cupola are of stucco plaster, as are also the side walls of staircase, balusters,

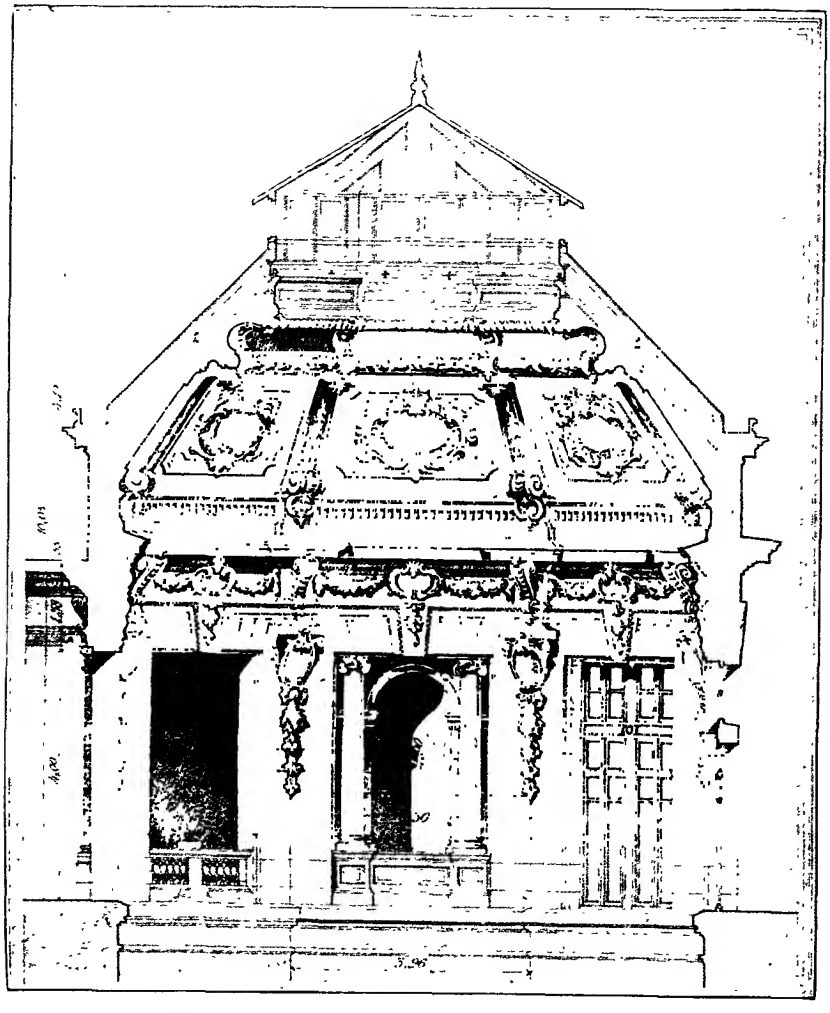


HÔTEL DE VILLE, SENS: DETAIL OF PORTION OF FRONT.

handrail, &c. Encased within the plaster finish of the hanging portion of the stairs are the iron strings and other supporting members. The stairs themselves are of Comblanchien stone, and the landings are finished in the same material. The inaugural tablet (1904) in the wall above the first landing is of polished red marble.

The staircase is lighted from the side windows (plain glass) and from a central lantern in the cupola, with internal flat lining in ground glass. From the centre hangs a massive pendant gasolier in brass.

The first-floor vestibule is similarly treated to the hall and staircase, and has a flat ceiling, polished oak floor (herring-bone pattern), and brass gas brackets. A touch of colour is given by two large and handsome blue and gold Sèvres vases, placed in niches at the sides of the entrance to the Salon d'Honneur, presented by the Ministry of Public Instruction and Fine Arts.



HÔTEL DE VILLE, SENS: CUPOLA OVER PRINCIPAL STAIRCASE.

The Salon d'Honneur is circular, and occurs at the angle of the building above the principal entrance vestibule, and on the same axial line as the staircase. The plastered walls and ceiling, which is domed, panelled, and enriched, are coloured in buff and gold. There are paintings, too, in the panels of the ceiling and the upper part of the walls typifying the arts of Music, Architecture, Painting, Sculpture, &c., and Agriculture and Commerce. Three frieze panels show "Dawn," "Midday," and "Night." On a pedestal in the centre of the room is a statue of "Daphnis" (plaster model only at present), by Pézieux, exhibited in the Salon of 1880, and presented to the Hotel de Ville by the French Government. The figure is placed high, and below the pedestal is a circular seat, which, together with the chairs, is upholstered in crimson velvet. The hangings to the windows are of red and green silk. The floor is of polished oak.

Opening off the left is the Salle des Fêtes, the colour decoration of which is mainly in buff and gold, with a somewhat gorgeous ceiling, coved round the sides, modelled and enriched, and having panels containing paintings by M. Cavaillé-Colls. The chimney-piece and columns at

the sides are of a sort of marble "scagliola" of many colours and elaborate design. The pendant gasoliers and wall brackets are of brass as before. The furniture is of dark wood upholstered in crimson, the floor of polished oak parquetry. A "service" staircase opens off one corner of the room next the fireplace, which would be very useful during receptions.

Opening off the right of the Salon d'Honneur is the Salle des Mariages, with general decorative scheme similar to the rooms last described, the paintings in the ceiling representing apparently "plighted troth" or "betrothal," and a large oil painting in the centre of the side wall opposite the windows shows "the first civil marriage which took place at Sens," apparently by M. Scherrer, with portraits of those who were actually engaged in the ceremony. The chimney-piece (rather hidden behind the Mayor's daïs) is of polished red and green marble, with a mirror filling the panel above. The furniture and benches are of oak upholstered in crimson velvet.

HÔTEL DE VILLE, SENS: PRINCIPAL STAIRCASE.

Next to the Salle des Mariages, but with an ante-room or space for the accommodation of the public intervening, screened with two columns and balustrade, is the Municipal Council Chamber, with accommodation for twenty-seven Councillors, two Adjoints, and the Mayor. The three latter occupy the dais, with a reporter at each end of the table. The seating for the Councillors is arranged round tables of horse-shoe form, covered with very dark-green cloth. The furniture and woodwork generally are of oak, also the floor. The colour decorations are much as before—buff and gold, with panel paintings and heavily modelled plaster ceiling. The columns and chimney-piece appear to be of "scagliola" composition, as in the Salle des Fêtes, in light colours. At the end of the room next the Mayor's daïs is a door leading to the Mayor's private staircase, which communicates with his apartments on the floor below, and with a private entrance to the building from the street. Behind the area reserved for the public at the back of the room is a polished red marble panel on the wall recording the

names of the Municipal Council at the time of the opening of the new building. The domed ceilings generally seem to be of plaster on curved ribs and other framing of steel.

The spire, or flèche, at the angle of the building is of inclined steel joists and diagonal cross-bracing, to which are fixed the battens for slating. Pitched roofs are of wood framing. The roofs generally are slated, with ornamental features and dressings in zinc and lead.

The heating is done by low-pressure steam, for which purpose there are two small boilers in the basement, and pipes distributing to the various rooms and corridors. A large air shaft receives fresh air in the basement from the outside—which is then conducted to the principal rooms and introduced through brass gratings in or near the floor—warmed when occasion requires. The lighting is by gas.

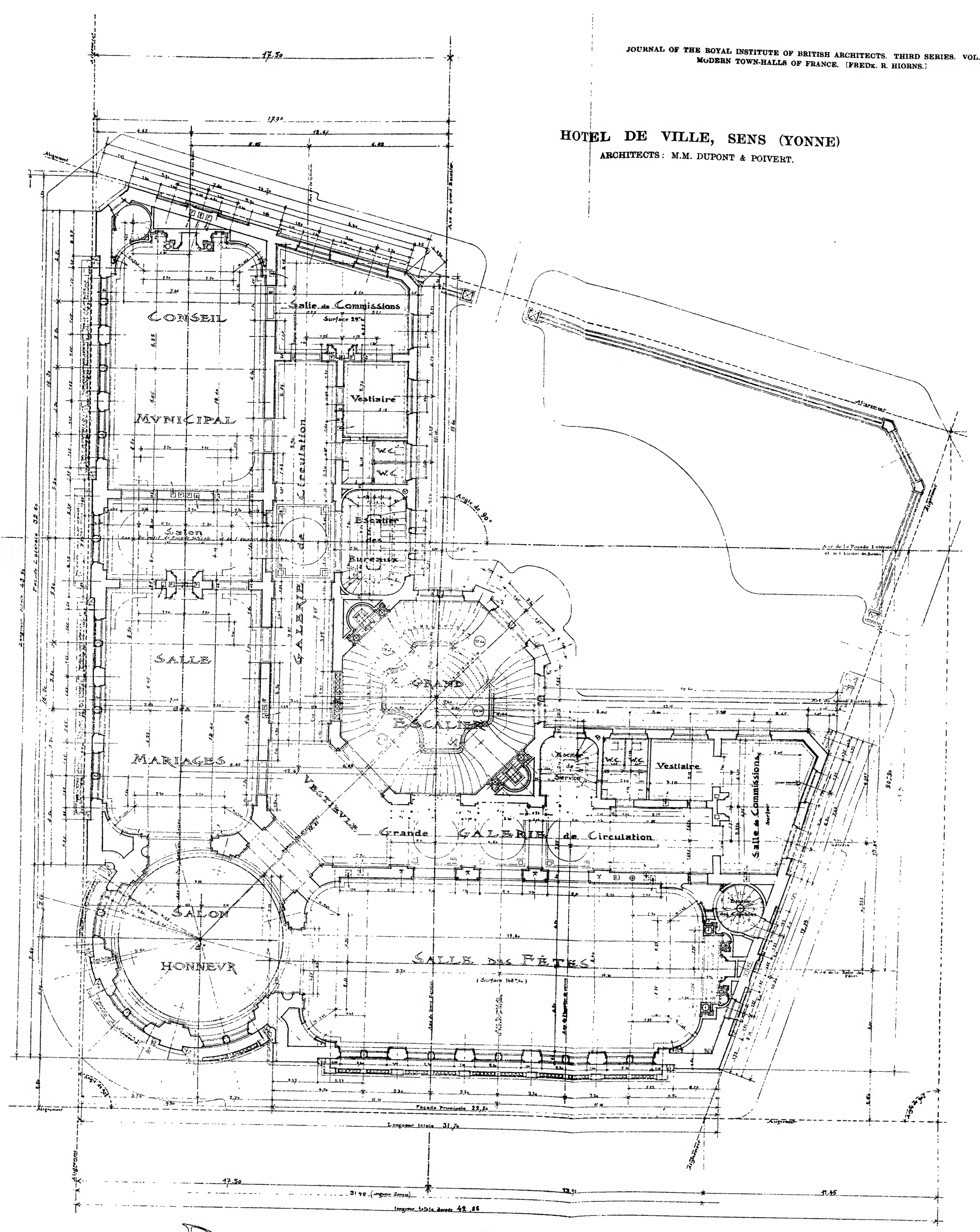
The total cost of the building was about 1,000,000 francs.

HÔTEL DE VILLE, SENS: THE SALLE DES FÊTES LOOKING TOWARDS THE SALON D'HONNEUR.

(To be continued.)

HOTEL DE VILLE, SENS (YONNE)

ARCHITECTS: M.M. DUPONT & POIVERT.



PREMIER ETAGE
(RÉCEPTIONS)

HOTEL DE VILLE, SENS (YONNE)

ARCHITECTS: M.M. DUPONT & POIVERT.

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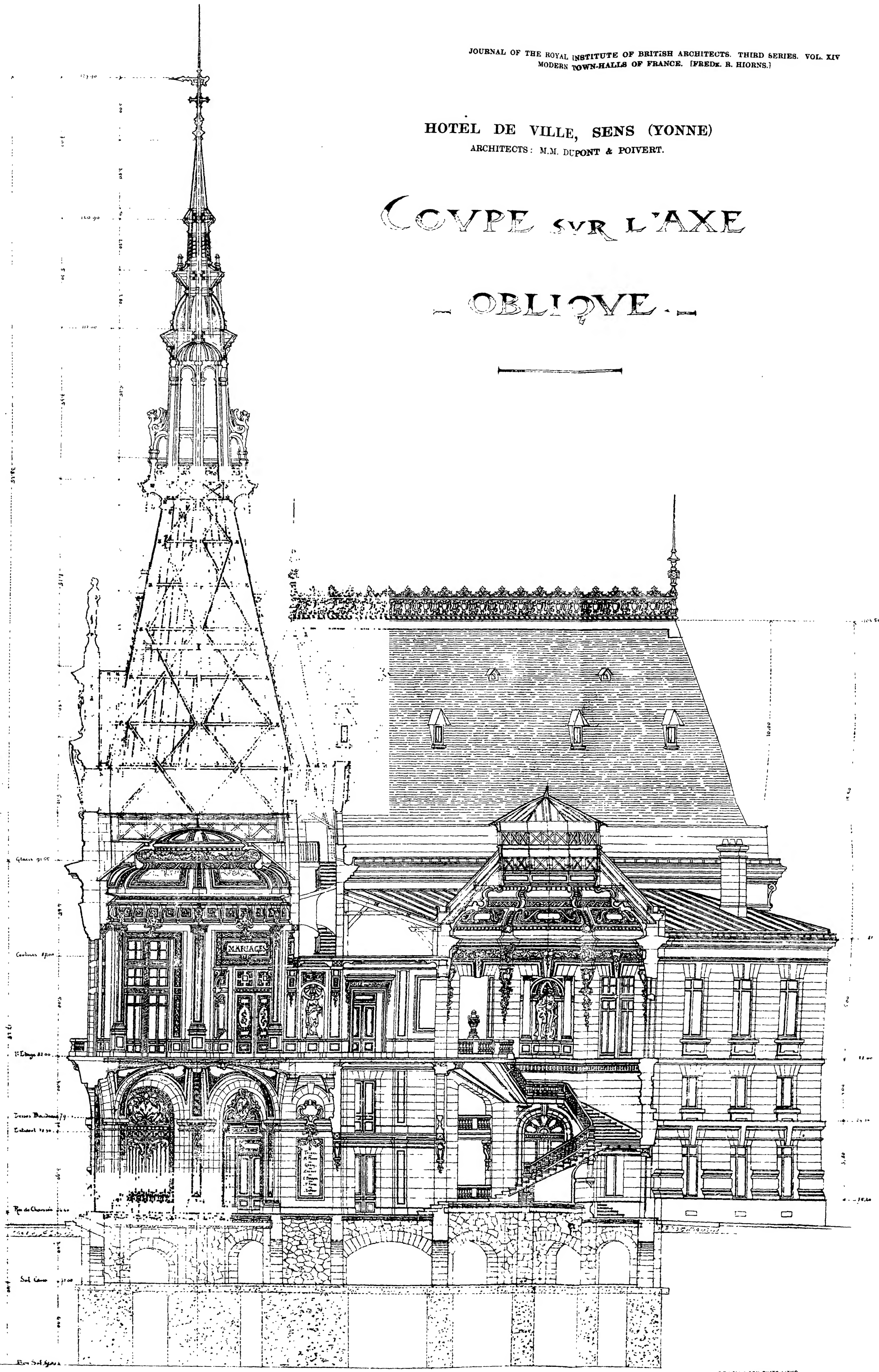

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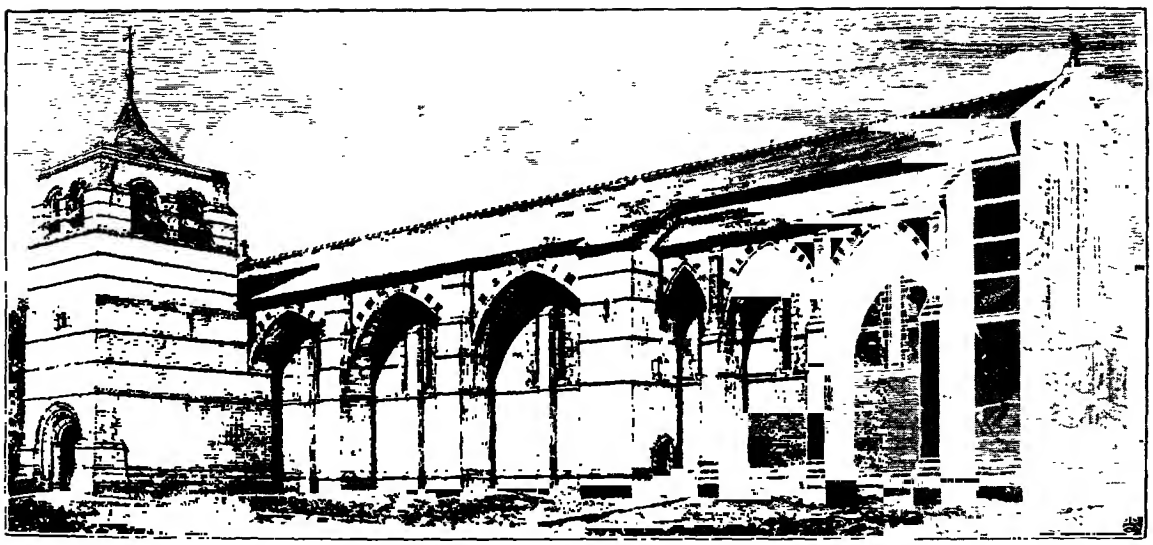


NEW CHURCH, PORT ELIZABETH, S. AFRICA. (MR. R. NORMAN SHAW, R.A., ARCHITECT.)
(From a drawing by Professor W. R. Lethaby.)

MODERN CHURCH BUILDING.

By Sir CHARLES A. NICHOLSON, Bart. [*F.*], and HUBERT C. CORLETTE [*F.*].

Read before the Royal Institute of British Architects, Monday, 18th February 1907.

I.—MODERN CHURCH DESIGN. By Sir CHARLES A. NICHOLSON.

THE subject of modern church design is not one that has excited much interest in the last few years. Perhaps it has been felt that ecclesiology was talked to death fifty years ago; but be this as it may, the last contribution to our subject which is of any considerable value was J. T. Micklethwaite's racy little book upon modern parish churches. This, like the Ten Commandments, tells us chiefly what we are to avoid; but in these days of individualist architecture the usefulness of a code of laws is only limited. Thus the leaflet of instructions to architects issued by the Incorporated Church Building Society is all that can be desired: its advice is excellent, its language clear, brief, and intelligible. And yet the Society grants its "imprimatur" to scores of building schemes which certainly fail in reaching the standards of simplicity and dignity indicated in the leaflet referred to.

From time to time Papers have been read before this Institute and other architectural societies upon the subject of modern church work, the last of any special interest having been that read a few weeks ago at the Architectural Association by Mr. Temple Moore, giving an admirable summary of advice upon most points of design and detail so far as concerns town churches of average size.

For one thing we have to thank the writers and lecturers. Just as Pugin and Beresford Hope in the middle of the last century were instrumental in killing the Gothic style of the Peel churches, so later critics have put an end to the fashion of imitating the eccentricities of men like Butterfield or Burges in buildings which lack the grace and sense of proportion which give distinction to the works of those masters.

A great deal of good quiet church work is done nowadays; and although there is some danger of our work becoming commonplace, yet the present-day architect seldom aims

deliberately at the tawdriness or vulgarity that were fashionable forty years ago. Our tendency is rather towards an excess of rusticity and simplicity, which is no doubt a reaction against the failings of a previous generation.

But no excessive modesty and reticence can be laid to the charge of our friends the church furnishers and man milliners. With courage worthy of a better cause they adorn our sanctuaries with their incongruous wares, and bravely step in where angels fear to tread.

It is not fair to lay all the blame for this state of things upon the clergy. The clergy generally are ready enough to take competent advice upon the subject of the accessories of their churches when once they can be made to understand that competent persons are able and willing to attend to such matters. The well-intentioned laity are, however, less easily controlled. Only too often some pious person concocts a device for commemorating the virtues of a departed relative, and at the same time, by way of killing two birds with one stone, giving his rector or vicar a pleasant surprise. And so some poor church becomes possessed of a white elephant of a screen or reredos, or carpet or brazen lectern, or stained-glass window of the deepest dye, and rare indeed is the cleric who possesses the courage to say "No" upon such an occasion.

The law as to faculties ought to be a safeguard in such cases; but chancellors seldom trouble themselves with artistic questions so long as they can extract their fees, and so long as they do not scent Popery in a piece of architectural incongruity. Moreover, faculties are not always asked for, especially if an act of barbarism can be committed without stirring up theological strife; and as for the case of cathedrals, I believe they are exempt from the law as to faculties. Again, very few chancellors possess any special artistic judgment or knowledge; so there is very little safeguard for our churches in the matter of accessories which may make or mar their interiors, beyond the natural good sense of the clergy and people. In this respect there has been an improvement in late years. All over the country churches have been decorated and furnished upon sound lines by men like Sedding, Bodley, or Kempe, and public opinion is slowly learning to discount the wares of the pushful clerical tailors, which seldom possess even the doubtful advantage of being cheap.

A passing allusion may be made in this connection to a certain "new art" movement in matters ecclesiastical, which movement is particularly identified with sundry societies bearing the names of Anglo-Saxon saints. It is directed against some extravagances and follies of the last generation, and it is to be welcomed so long as its professors are not led away into equally absurd extremes of fussy antiquarianism. This *culte nouveau*, it is true, concerns itself mainly with the details of ceremonial; but it has begun to make itself felt in the Church of England; and it seems likely to modify in the course of a few years the standards of ritual arrangement which have until lately met with general acceptance.

As architects we shall do well to study this movement; but we must not forget that fashions are apt to change, otherwise we may be led away into perpetrating freaks of planning and detail which our successors will be only too desirous to alter or to obliterate.

Turning to matters of more distinctively architectural interest we may first consider the smaller and simpler types of churches, nowadays seldom required in towns. The little old town churches that one meets with in places like Exeter are to-day an anachronism, but there is still an occasional demand for small new churches in outlying country places.

The factor which the architect should bear in mind when designing such buildings is the necessity for restraint and simplicity. Of course there are cases where a church is wanted for a small congregation, and yet where the funds are practically unlimited. But village churches like Patrington or Edington among old examples, and Hoar Cross or Clumber among new, must always be exceptions to the general rule, and generally the builder

ST. ALBAN'S, HOLBORN. (THE LATE W. BUTTERFIELD, ARCHITECT.)
(From a drawing by Professor Beresford Pite.)

of a small church is only justified in aiming at that kind of dignity which can be attained by simple outlines and good proportions. Delicate ornament and bright colours are not out of place in such buildings; but an undue multiplication of parts, an excessive parsimony of material, or the use of meretricious ornament, can only result in disappointment.

A refined sense of proportion or detail cannot be equally attained by all of us; but we can at any rate build simply and without offence, and refrain from aping the features of a cathedral upon the scale of a chapel.

There is, however, this danger to be guarded against, that an architect whose practice lies principally in domestic and commercial building, when he gets an opportunity of airing his knowledge of Gothic art, is apt to exaggerate picturesqueness into a fussiness which only too readily commends itself to the taste of the British public.

In most old work upon a small scale one may trace a certain quality of impressionism which distinguishes it from more important building. Thus Iffley and Cassington have their central towers but no transepts; Potterne, Minster Lovel, Shottesbrooke, Poynings, are cruciform but aisleless; the typical late west-country churches have aisles but neither clerestories nor chancel arches; the Midland type of village church, though possessing aisles and clerestories, towers and structural chancels, is nevertheless severely square and straightforward in plan and outline, any complexity it may possess being generally the result of late alterations and enlargements.

In no class of buildings is this impressionistic quality, the quality that distinguishes a sketch from a finished picture, more apparent than in the London churches of the Restoration period. Take Wren's St. Mildred's, Bread Street, a rectangular room barrel-vaulted at each end and domed in the centre, or his Church of St. Martin, Ludgate Hill, with four pillars carrying four crosswise vaults. St. Stephen's, Walbrook, is an amplification of the same idea, with its sixteen columns, double aisles, and octagonal lantern. Hawksmoor's St. Mary Woolnoth is another version. Here the square lantern is everything and the surrounding aisles are mere passages. The only modern church that can well be compared with these was Cockerell's Hanover Chapel in Regent Street, the destruction of which was an act of barbarism worthy of a Grimthorpe.

The charm of such buildings as these lies partly in their novelty; but in all the examples just quoted the architect has evidently kept in view the limitations proper to a small parish church and has severely avoided the imitation of features only proper to more important buildings. So, too, in certain mediæval buildings, where it is possible to trace the individuality of the designer's taste, which it is by no means always possible to do in the works of a traditional school of building, one finds the same instinctive avoidance of pretension. Witness the simple cruciform plans of the Thames Valley churches, or the admirably proportioned thirteenth-century parish chancels, of which we have so many examples all over England. Sometimes, as in the Norman church at Melbourne, dignity is attained by unusual massiveness of construction. In later work another note is often struck in the use of a stately range of large traceried windows. In the west country the long level parallel ridges, and in forest districts the sweeping spans of tiled roofing, give character to the humblest village churches. And our best modern work is marked by a like absence of confusion, for though modern conditions have made the existence of a living traditional school of architecture impossible, and though the taste and culture of individuals are only a poor substitute for a healthy tradition of building, yet, if an architect can succeed in grasping the elementary truth that he can never advance beyond the position of a learner, the exuberance of his fancy will be tempered by modesty, and his work will thereby gain both in dignity and in refinement.

The importance of a simple plan cannot be over-estimated in our smaller churches, and in such buildings it is not always necessary or desirable to sacrifice too much for symmetry.

MILES PLATTING, MANCHESTER. (MR. LEONARD STOKES, ARCHITECT.)
(From a drawing by Mr. Leonard Stokes.)

Thus, under certain conditions, good results can be obtained by planning a moderate-sized church with a nave flanked by an aisle of fair width on one side only. This has been done by Sedding at Bournemouth, and by Bodley at Cambridge, in cases where the width of the

church was too small for double aisles of reasonable size, and too great for an unbroken single span of roofing. The promoters of church-building schemes are apt to make a fetish of an

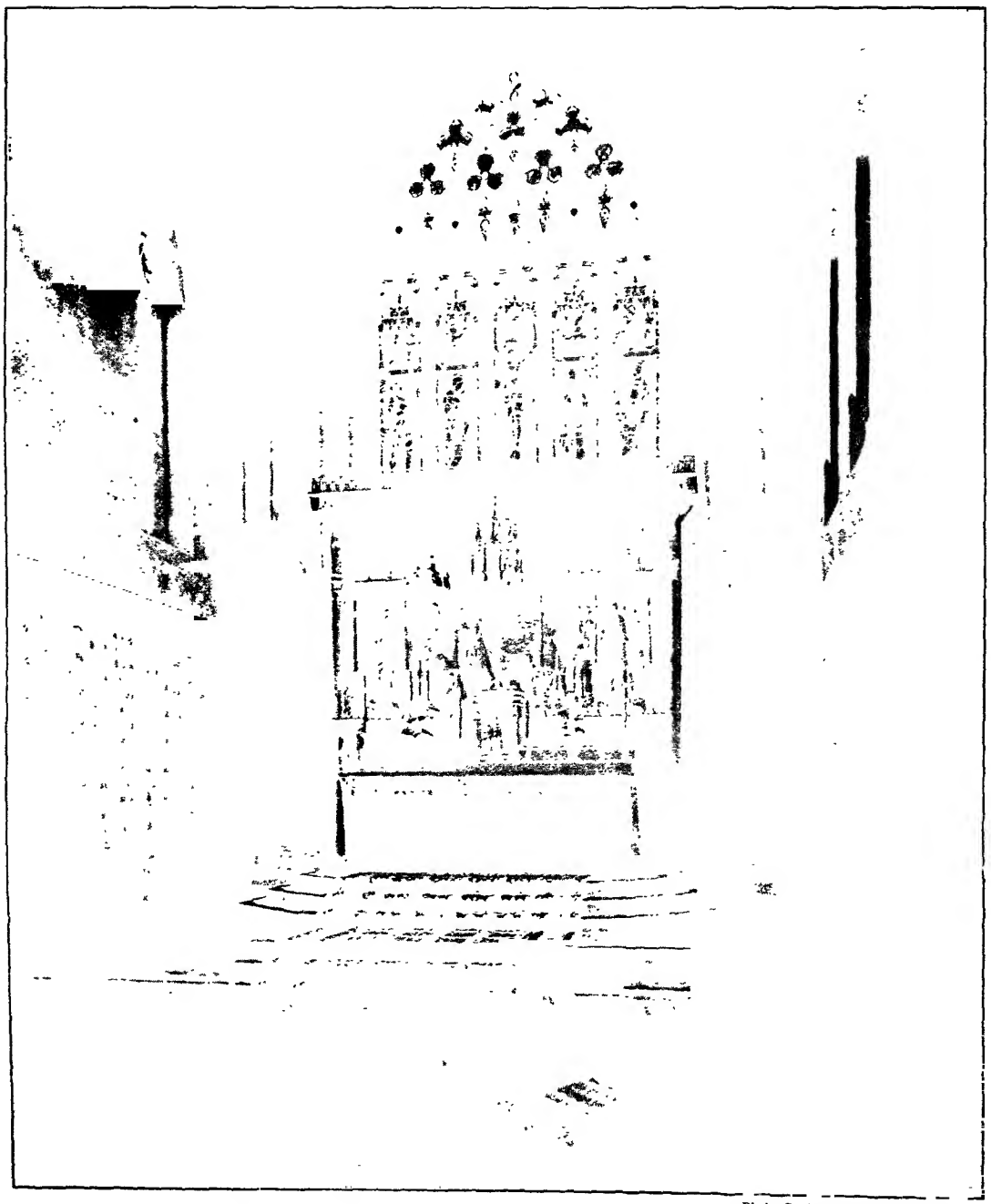


Photo. Cyril Ellis Alexandra Park.

CHANCEL, ST. CLEMENT'S, BOSCOMBE. (THE LATE J. D. SEDDING, ARCHITECT.)

unobstructed area full of pews in front of the chancel and altar. The familiar type of church with passage aisles is one of the devices that during the last century have been contrived

in order to meet this supposed necessity. But it is held by many that there is no real necessity to place the altar and chancel in full view of all the worshippers, especially in these days, when everybody possesses a Prayer-book and can read it. Some there are who even

Photo Cyril Ellis, Alexandra Park.

ST. CLEMENT'S, BOSCOMBE. (THE LATE J. D. SEDDING, ARCHITECT.)

prefer to worship in a secluded corner of a church. The question of placing the pulpit in a conspicuous position, and of making the preacher audible to the congregation, is of course an important one; but this can generally be solved in a church divided up into spans of reasonable width, and carried upon fairly light arcades, especially if we adopted more often the Continental and old English plan of placing the pulpit about a third of the way down the nave, so

arranging the seats that those placed east of the pulpit should be capable of being turned round during the sermon.

The passage-aisle type of church is, of course, capable of producing imposing architectural effects; but these are only possible where the height is ample, and therefore this plan is a costly one, and unless ample funds are available it is better that a more economical type of design should be adhered to. And if, as is the case generally, an effect of internal spaciousness is the great desideratum, this will be best attained by dividing up a church into two or three spans of fair width and height rather than by exaggerating the dimensions of the central avenue and tacking on a pair of aisles like cottage sculleries.

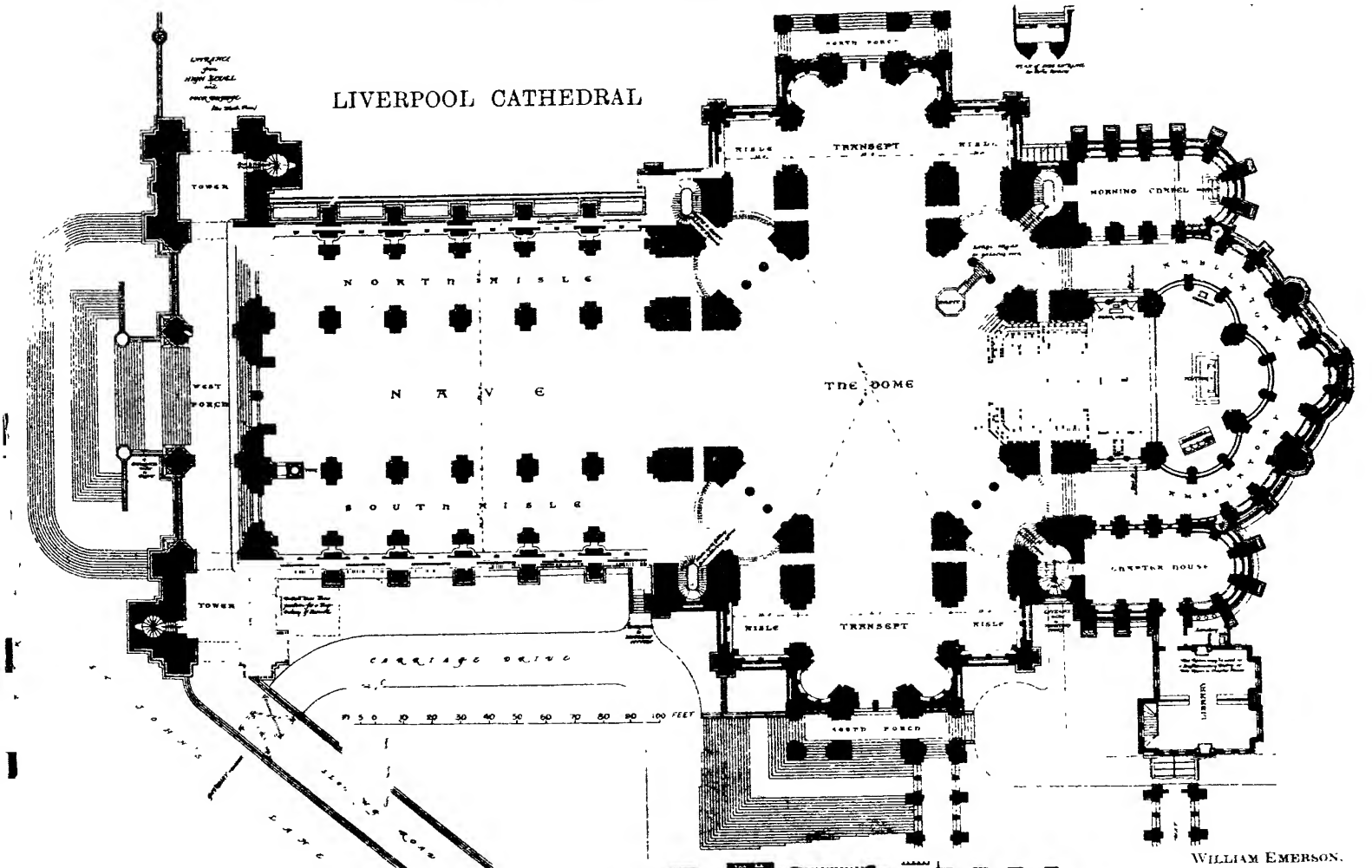
One of the most valuable assets for the architect is of course a true sense of scale. Many Renaissance buildings, like St. Peter's at Rome and the Isaac Church at St. Petersburg, suffer from the exaggeration of their details. Our own besetting sin is in the reverse direction, and we are apt to destroy the dignity of a whole by composing it of a collection of features so small as to be mean in themselves. Although Pugin is not to be judged as other men, in that he was a pioneer of modern church building, one cannot but feel that he sometimes sailed too near the wind in this respect, and that some of his work is thin and poor in consequence. His successors were more fortunate than he, and the work of men like Street and Butterfield is generally marked by a fine sense of scale in the individual parts. This will be admitted by those who do not admire the details themselves. And if we examine some of the illustrations exhibited this evening we shall recognise that some of the best effects in modern church work have been produced in simple buildings by the use of thick walls, rang.. of large windows, tall arcades, and plain roof lines.

A problem often presented to modern architects is the productior cheap town churches of good size, seating up to a thousand people or so. The cheap ch . is the great architectural achievement of the last century, and the amount of show tha could be purchased at £5 a sitting in the fifties and sixties is to-day almost incredible.

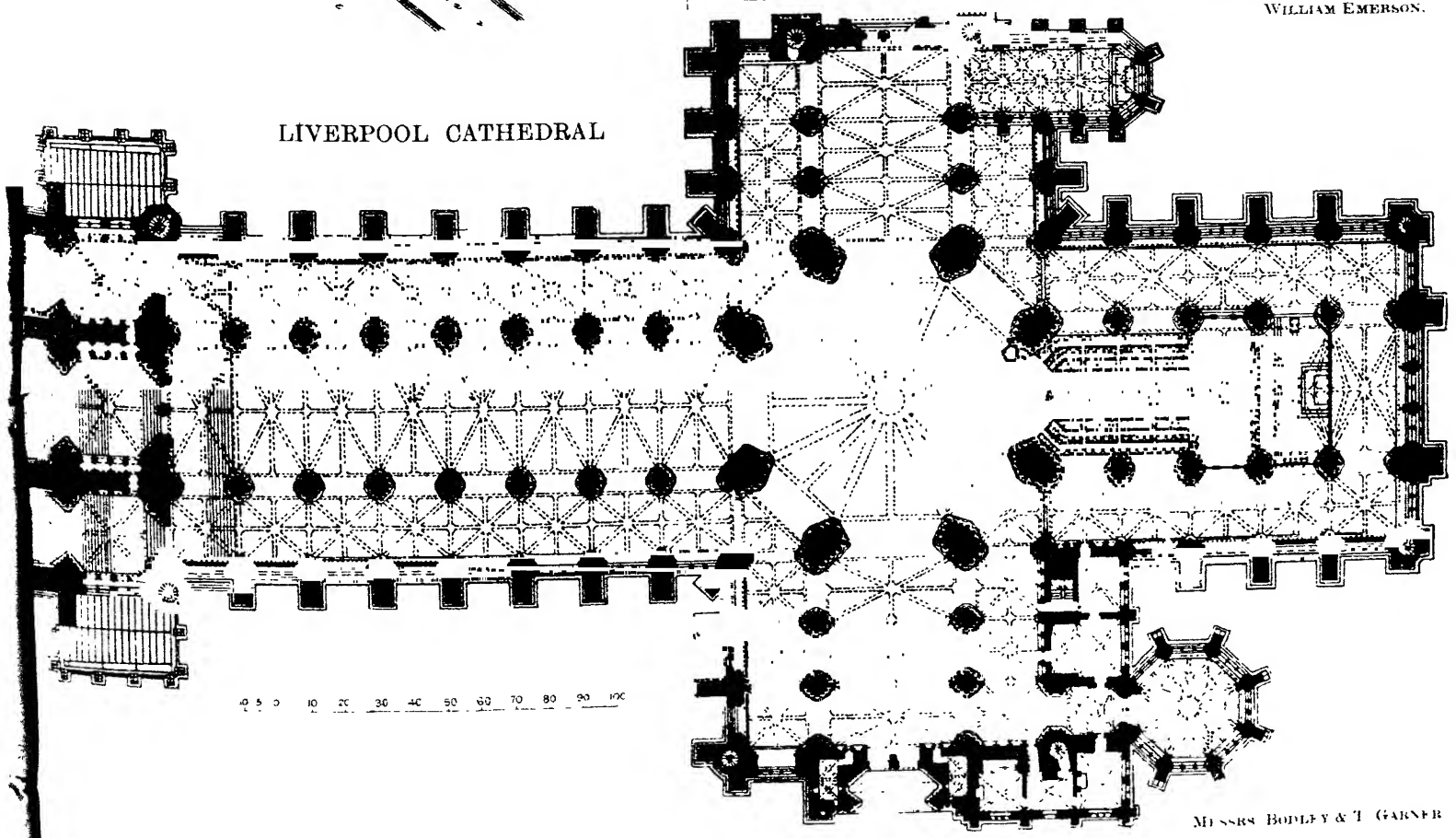
Unfortunately many building committees expect equally miraculous results under present-day conditions; an expectation doomed to end in disappointment. By exercising great care and economy it is still possible to build substantial churches fairly cheaply; but in such buildings it is only possible to attain simple effects which do not commend themselves to public taste, and it is only by the exercise of some diplomacy that an architect compelled to build cheaply is excused from the obligation to disfigure his work with poor ornament. Under these conditions it is advisable to aim at actual bulk rather than at architectural refinements or luxuries; and such unessential features as chancel arches, clerestories, broken-up roofs, and an undue multiplication of parts should be dispensed with.

The Roman Catholic Cathedral at Westminster, internally at any rate, shows what an impressive effect may be obtained by the use of purely constructive features without any ornament in the usual sense of the word. The same thing is apparent in the big brick church of St. Bartholomew at Brighton, the height and spaciousness of which cause one to overlook the hard and unsympathetic character of its detail. In a less marked degree Sedding's churches at Falmouth and Clerkenwell, and Bodley's at Hackney, discard refinements of detail and depend for their effect almost entirely upon their necessary constructive parts.

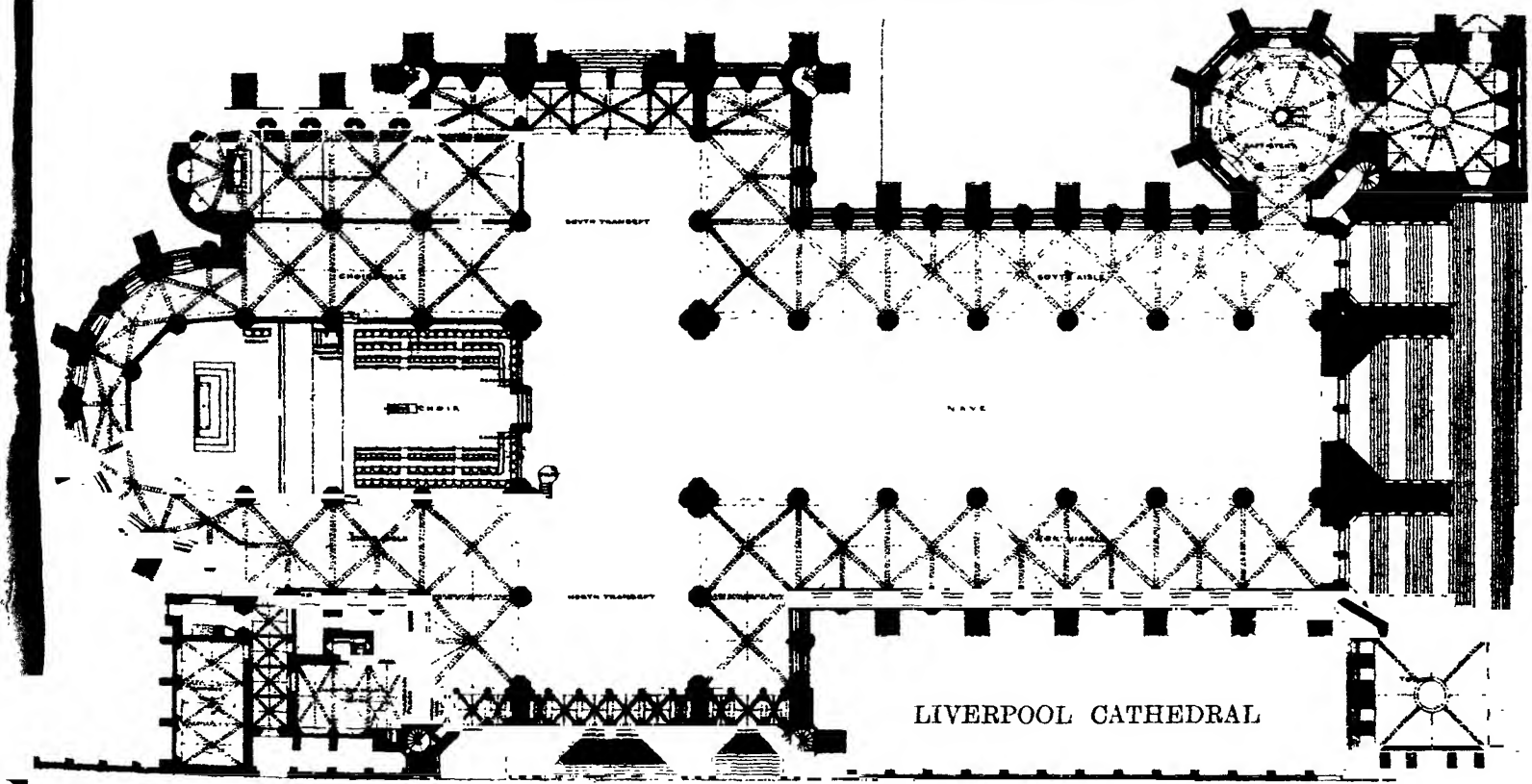
The one quality which cannot be dispensed with in these plain churches is that of sufficient solidity. Of course there is plenty of mediæval precedent for flimsy building; but it will be found that our forefathers hardly ever executed these *tours de force* except in their costliest and most carefully constructed buildings, like St. Urbain at Troyes and the eastern parts of Gloucester Cathedral. Even in such examples as these, it is doubtful whether the result attained is so satisfactory as it would have been had the architects not been such clever



WILLIAM EMERSON.

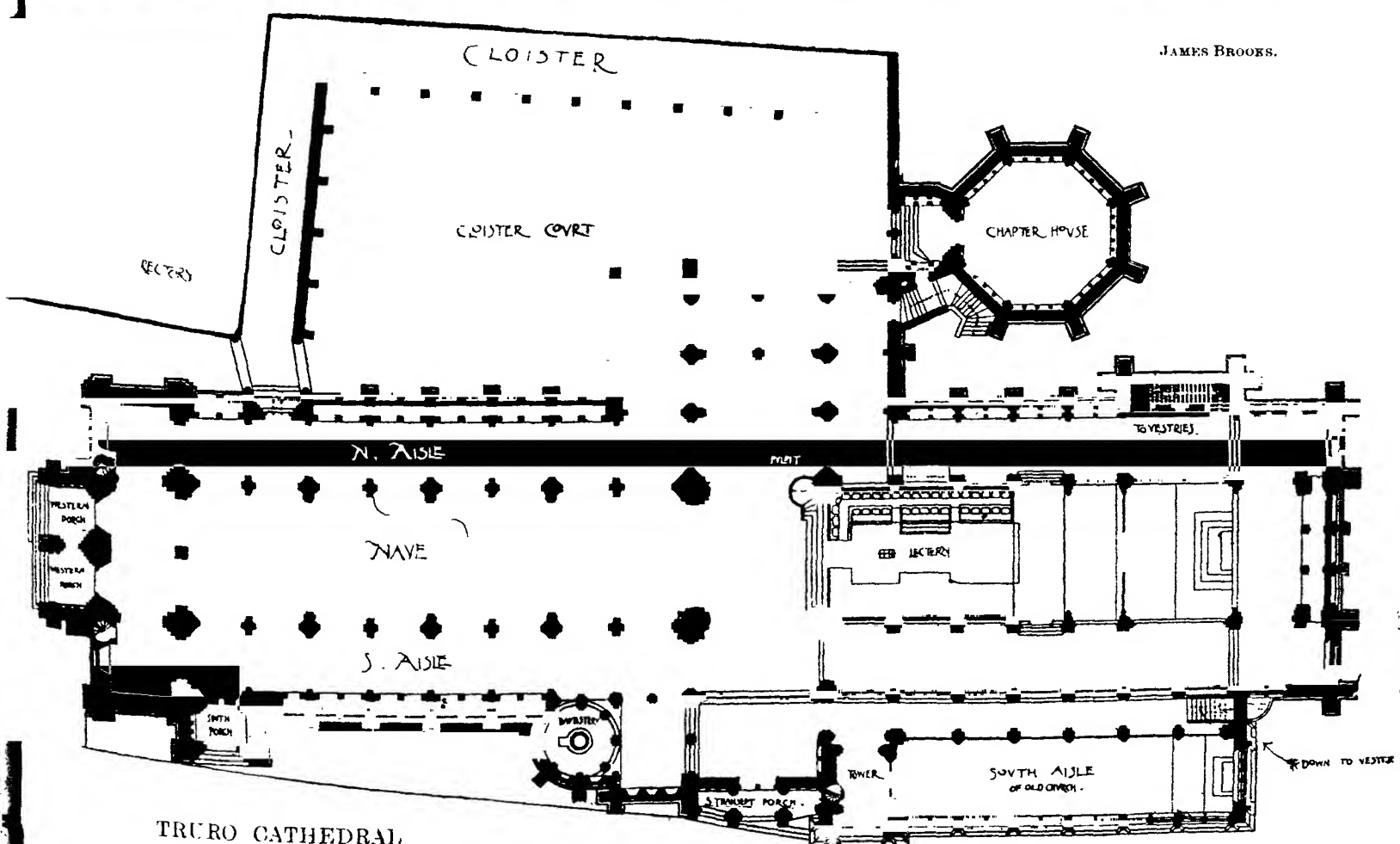


MESSRS. BODLEY & T. GARNER



LIVERPOOL CATHEDRAL

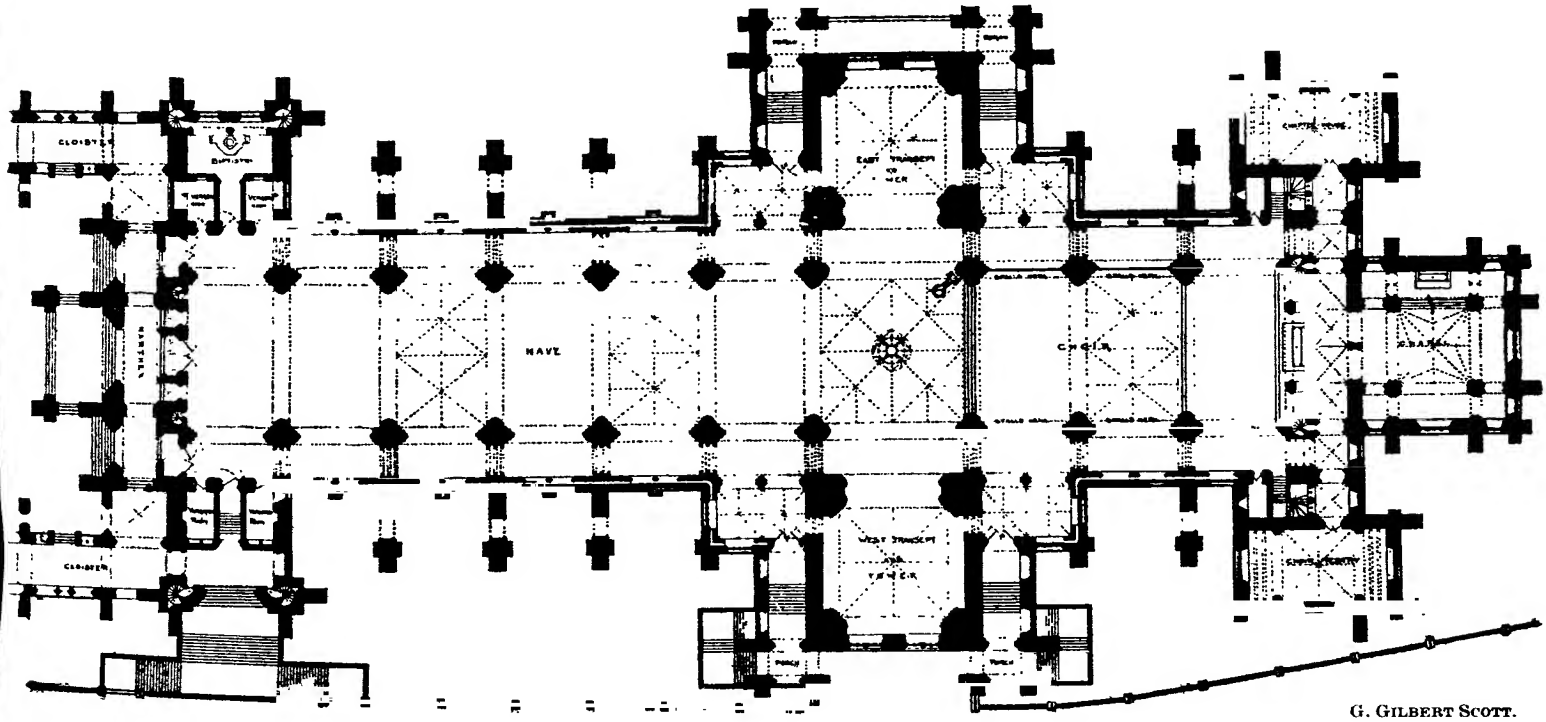
JAMES BROOKS.



TRURO CATHEDRAL

JOHN L PEARSON

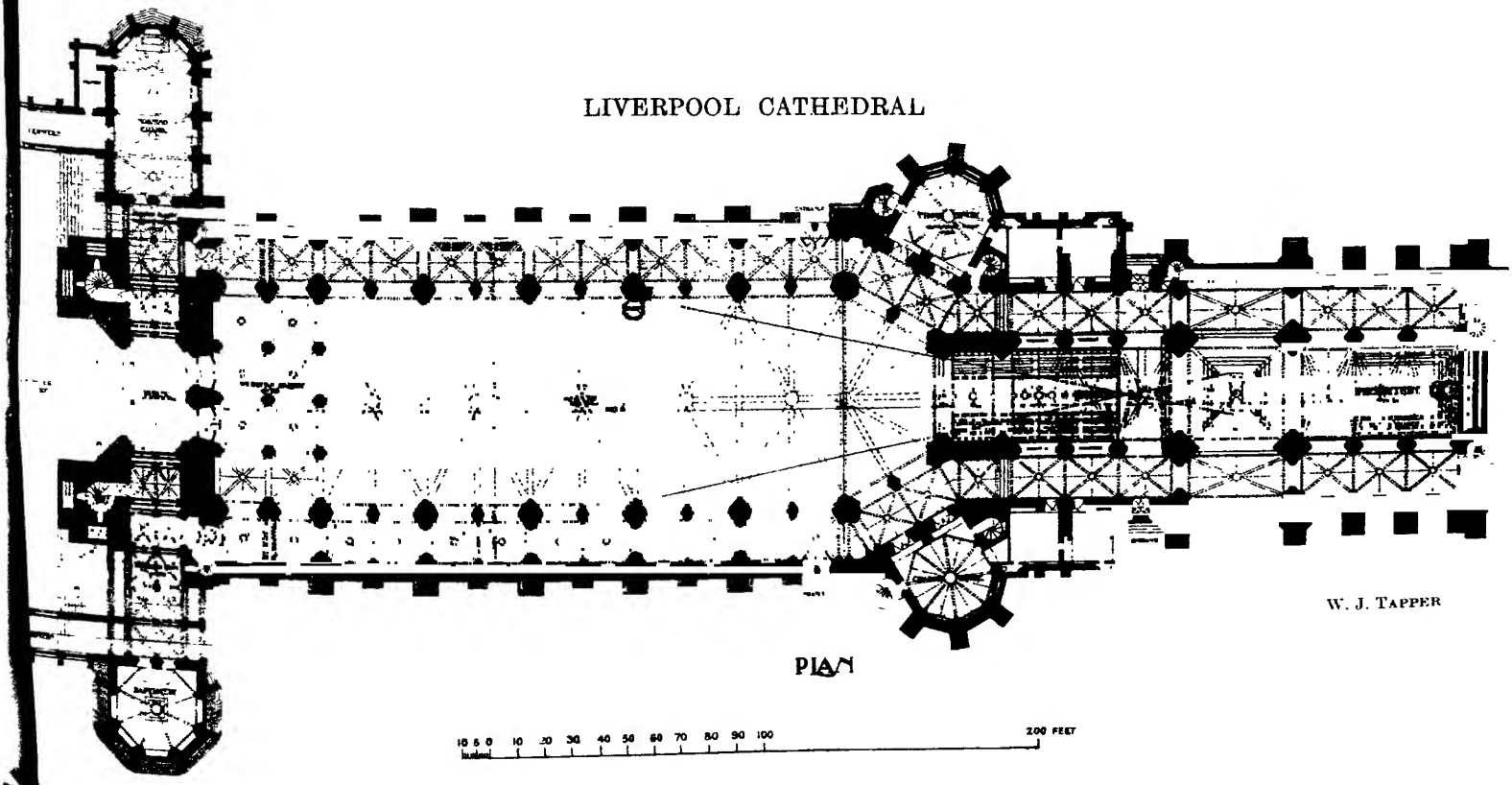
LIVERPOOL CATHEDRAL



G. GILBERT SCOTT.

Accepted design.

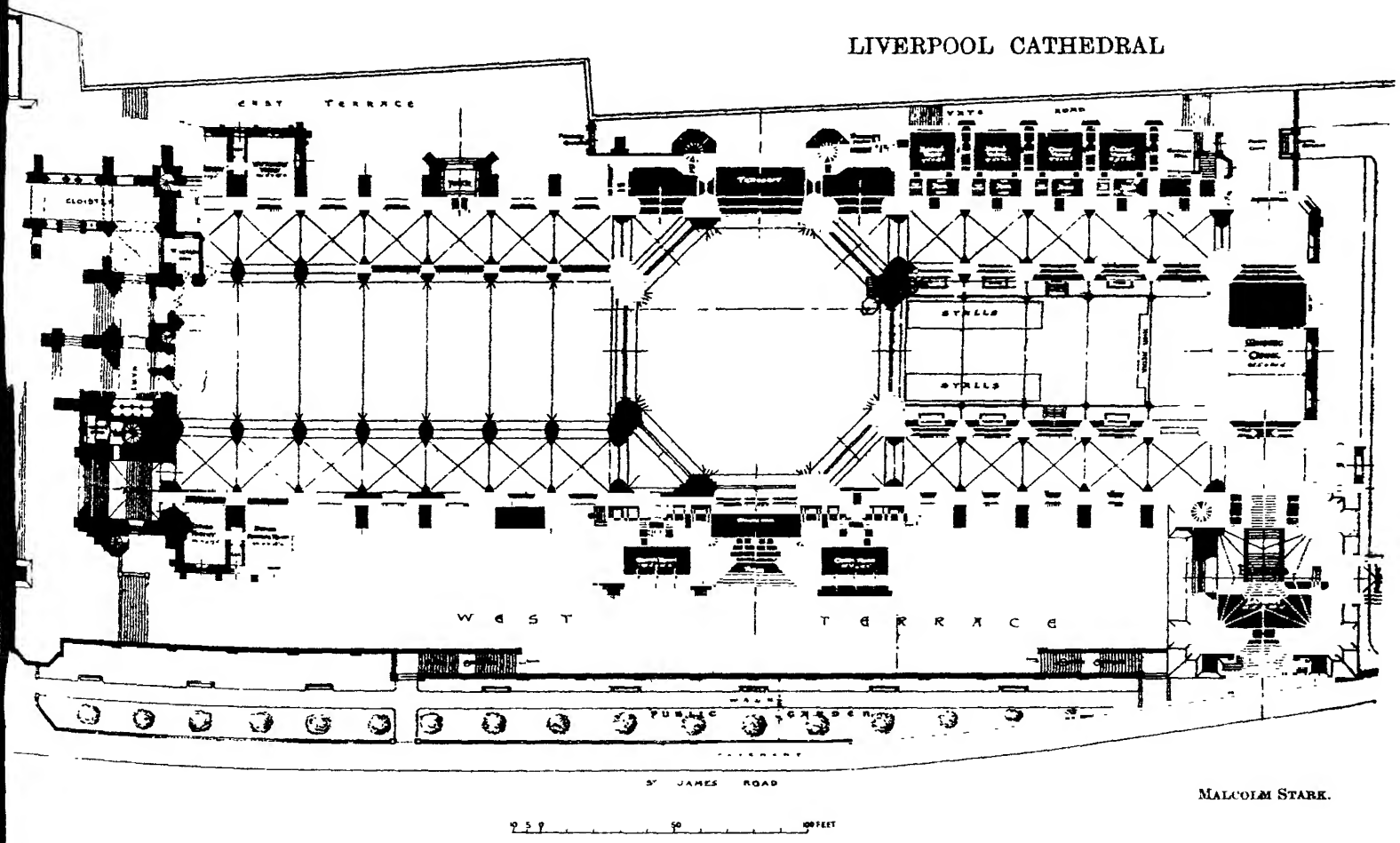
LIVERPOOL CATHEDRAL



W. J. TAPPER

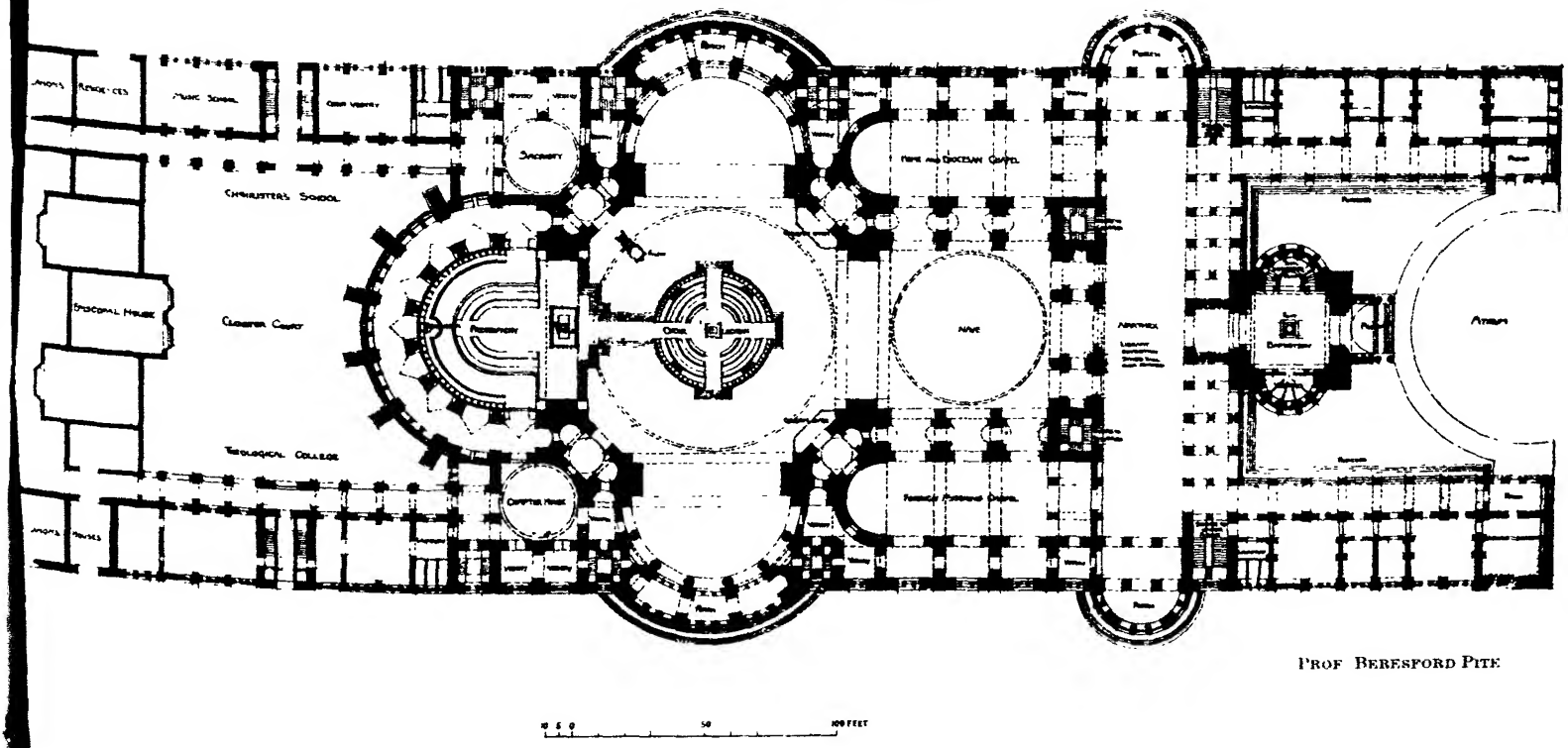
C.F. KELL & SON PHOTO LITHO 2 & 3 TOTHILL STREET WESTMINSTER

LIVERPOOL CATHEDRAL



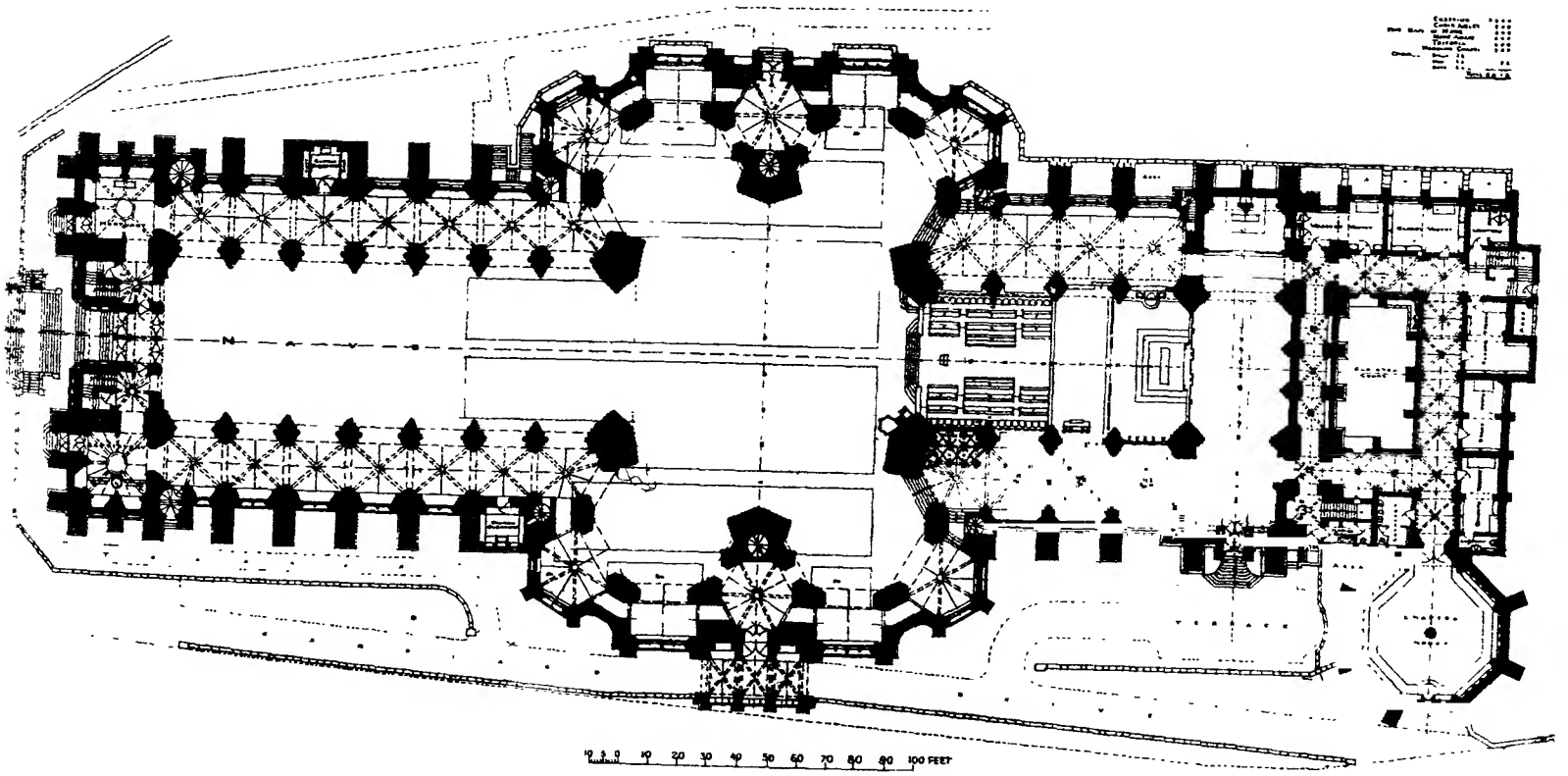
MALCOLM STARK.

LIVERPOOL CATHEDRAL



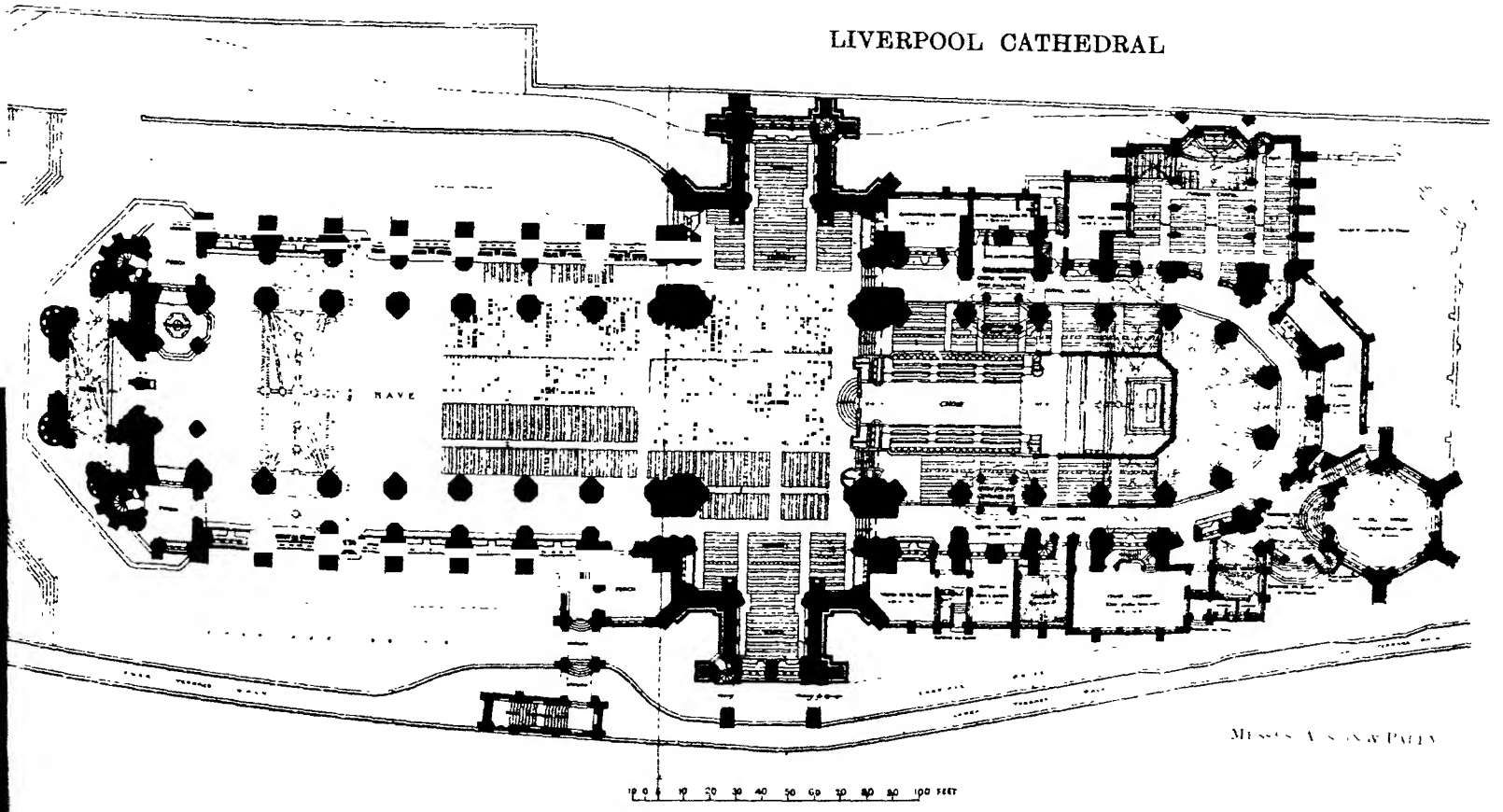
PROF BERESFORD PITE

LIVERPOOL CATHEDRAL



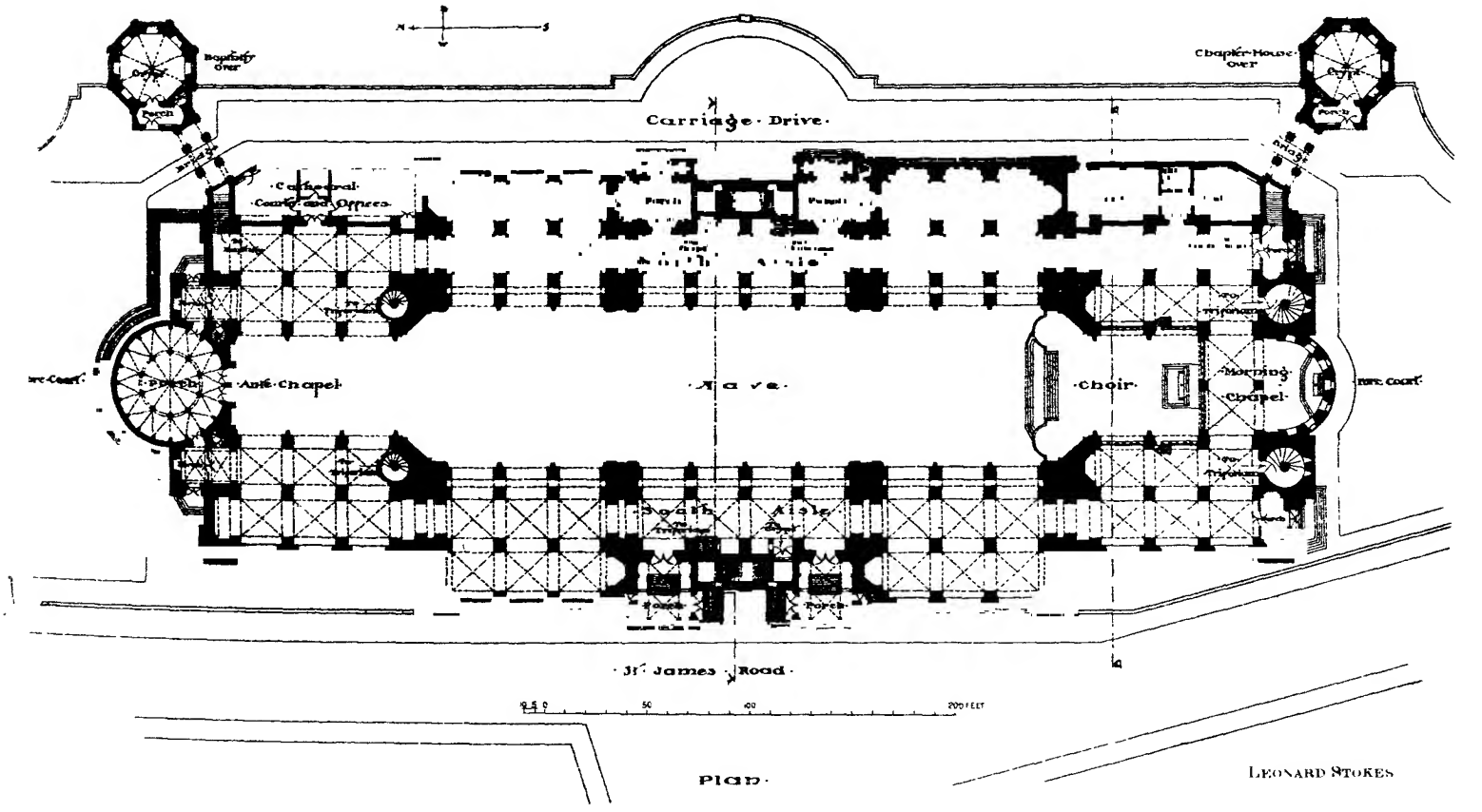
SIR C. A. NICHOLSON

LIVERPOOL CATHEDRAL

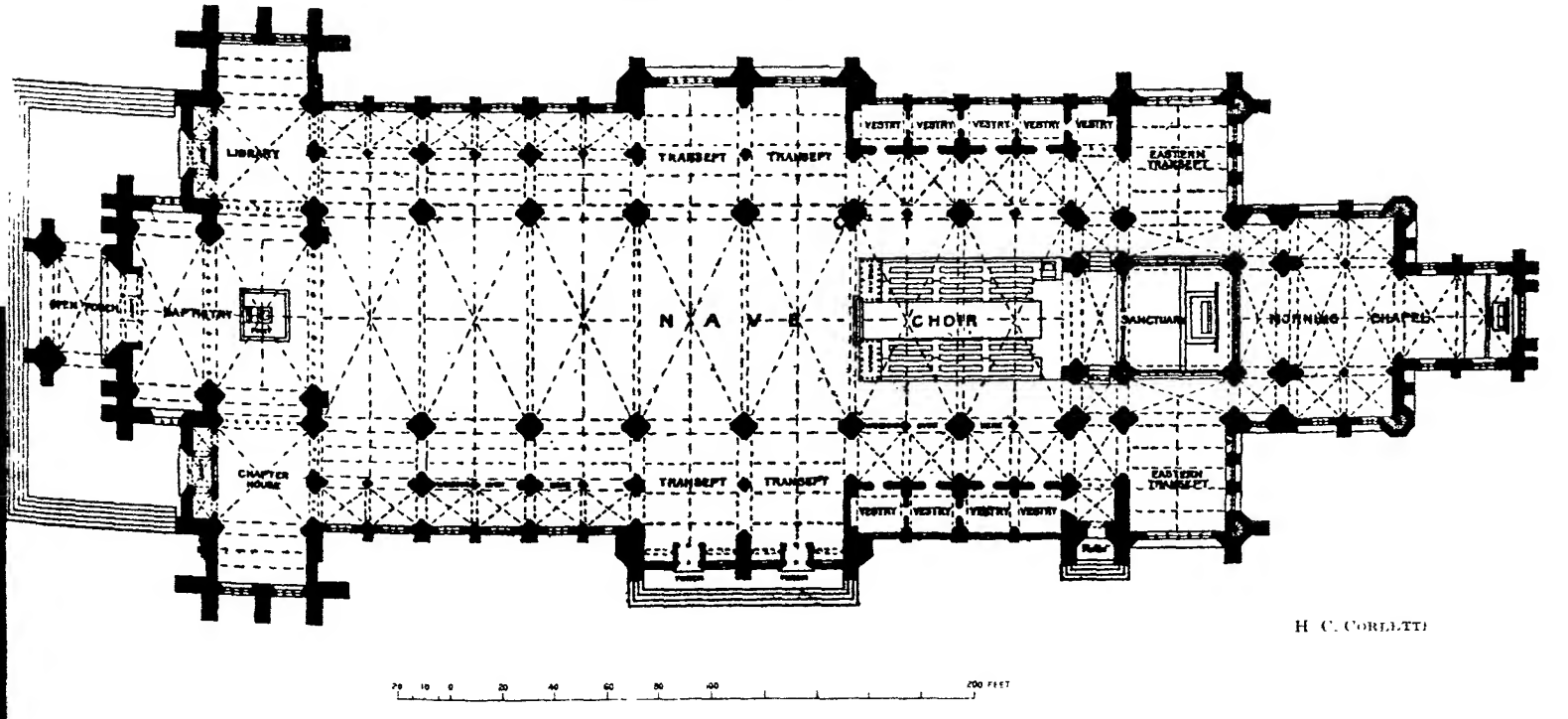


MESSRS. A. S. & W. PATTY

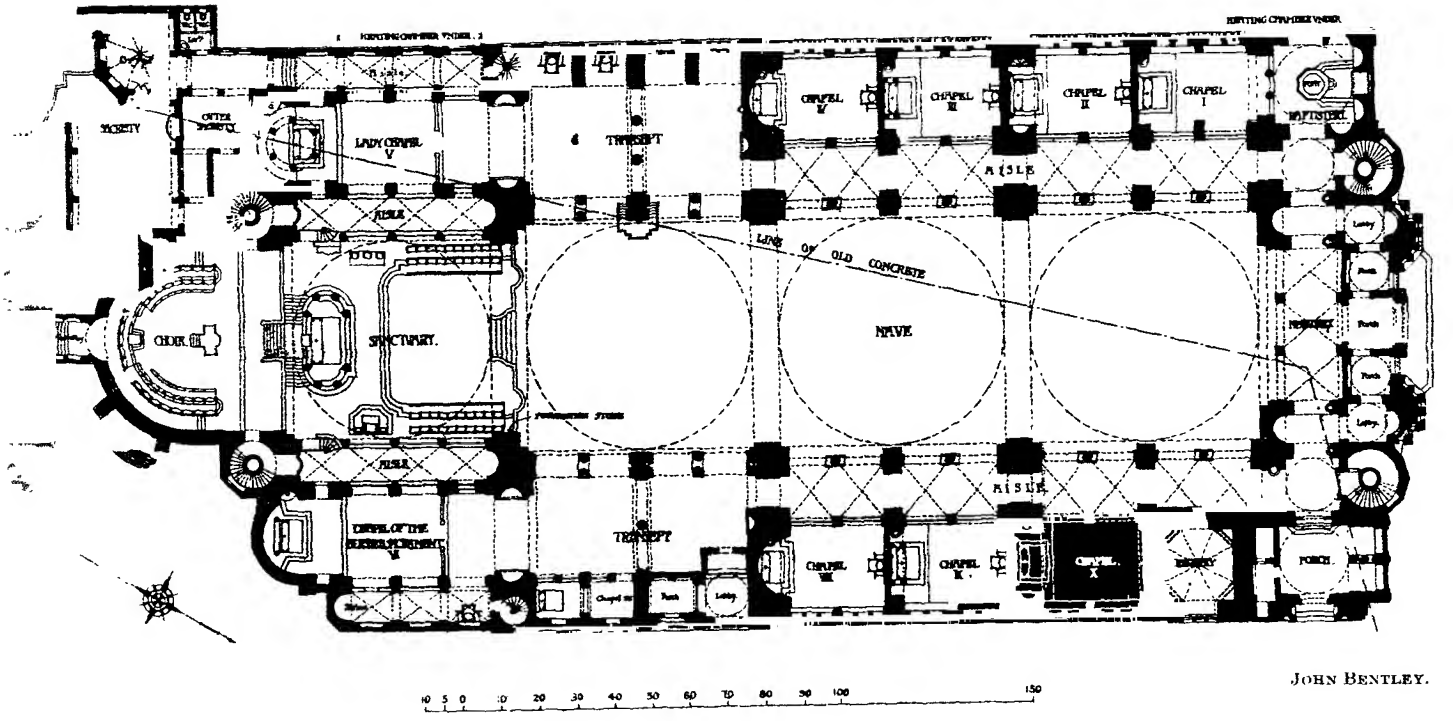
LIVERPOOL CATHEDRAL



LIVERPOOL CATHEDRAL

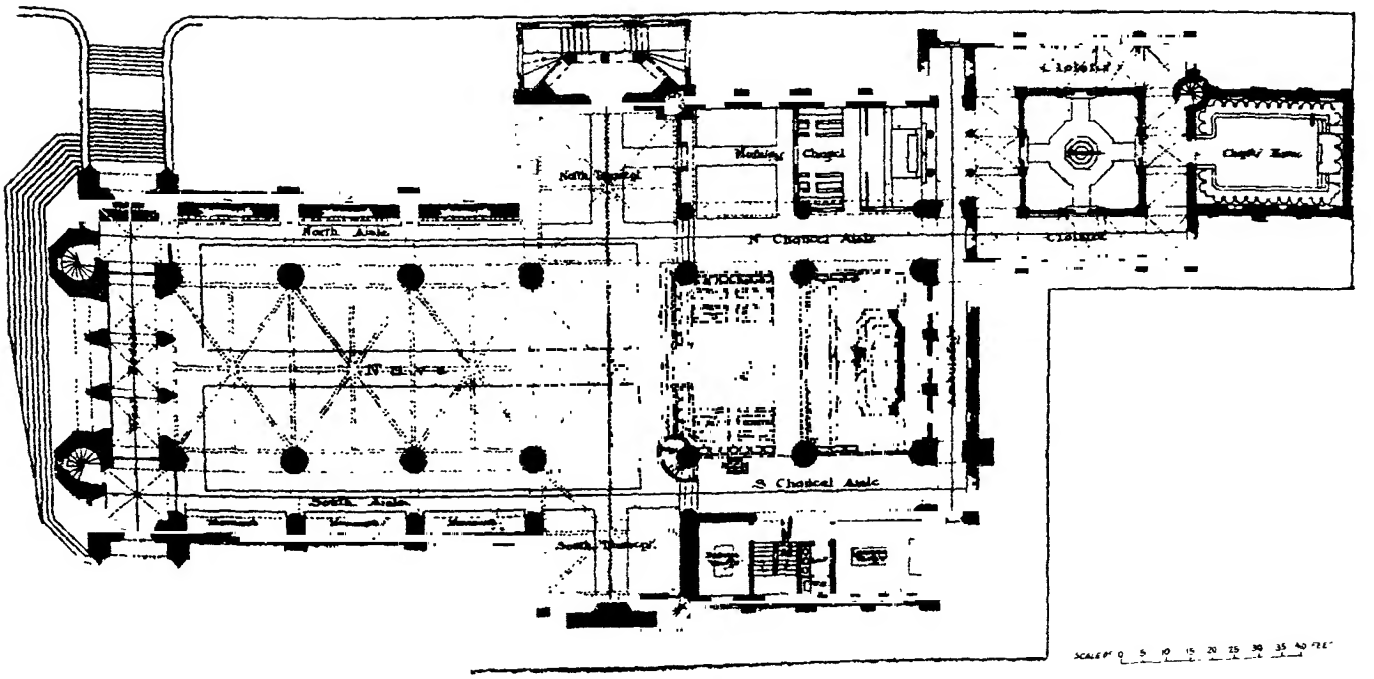


WESTMINSTER CATHEDRAL



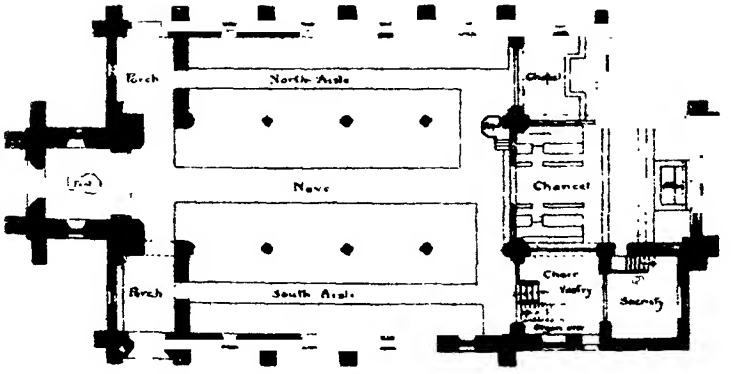
JOHN BENTLEY.

NEW CATHEDRAL, VICTORIA, B.C.



H. WILSON

SALCOMBE CHURCH



PLAN

THE LATE J. D. SEDDING.

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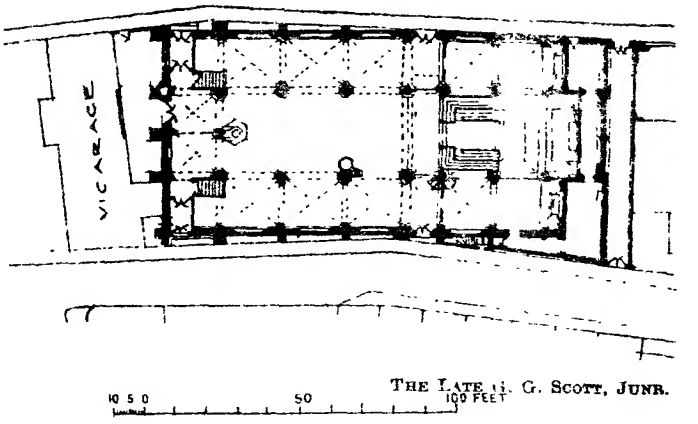

THE LATE G. G. SCOTT, JUNR.

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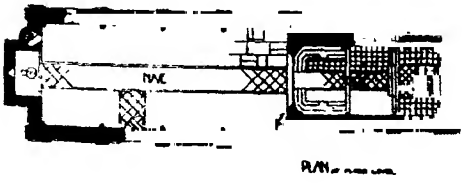
CHURCH OF THE ASCENSION, MALVERN LINK



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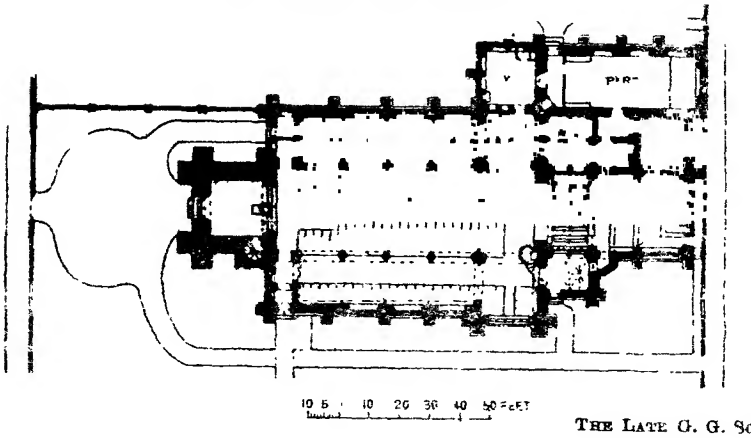

THE LATE G. G. SCOTT, JUNR.

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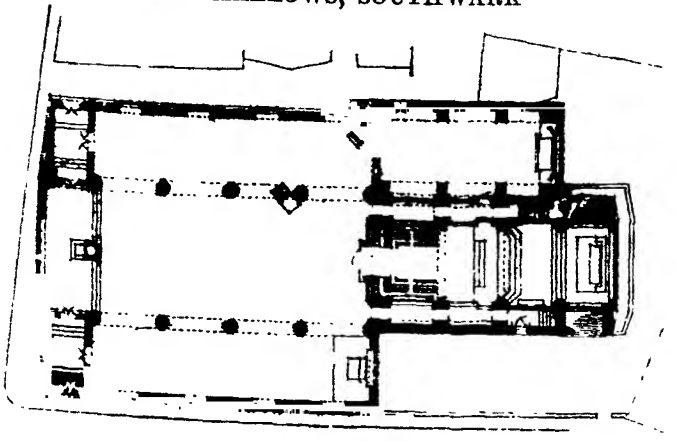
ALL HALLOWS, SOUTHWARK



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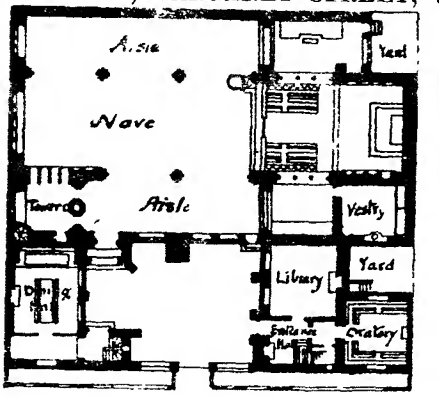
THE LATE G. G. SCOTT, JUNR.

ALL SAINTS, MARGARET STREET, W.



THE LATE W. BUTTERFIELD.

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engineers ; but in cheap modern churches, where the construction is starved until the verge of stability has been nearly attained, one cannot but feel a most painful sense of pretension and inappropriateness. If we have to build cheaply, let us, at any rate, build solidly, and not waste money upon moulded dressings of Bath stone or even baser materials.

In all buildings external design must depend largely upon internal arrangement, and this is particularly evident in the case of simple buildings like churches, for it is often the case that in civil or domestic work the complexities of an interior must of necessity be clothed in some simple external envelope. So it has been said that if a church has a good interior the exterior may be left to take care of itself. In buildings of the highest class this is hardly true: the clustered towers of Lincoln, the dome of St. Paul's, the portico of Peterborough, are no mere external expressions of the conveniences of structure. But it is, perhaps, fortunate that we who have to build cheap churches for parsimonious people should be debarred from emulating these achievements of an age of faith, and that we should be content with the simplest possible outlines and with the severest of external detail in most of our work. There is, however, one source of dignity which is within the reach of every church builder—I refer to the dignity of a long, unbroken roof line. It is hardly possible to over-estimate the value of this ; but it requires a certain amount of courage upon the part of an architect to compass the building of such a roof. Among the Gothic revivalists the artist who first seems to have realised the value of this feature was William Butterfield. Keble Chapel has a well-known example of an unbroken roof, and the parish churches built by this master at Rugby and at Chipping Barnet used to dominate most

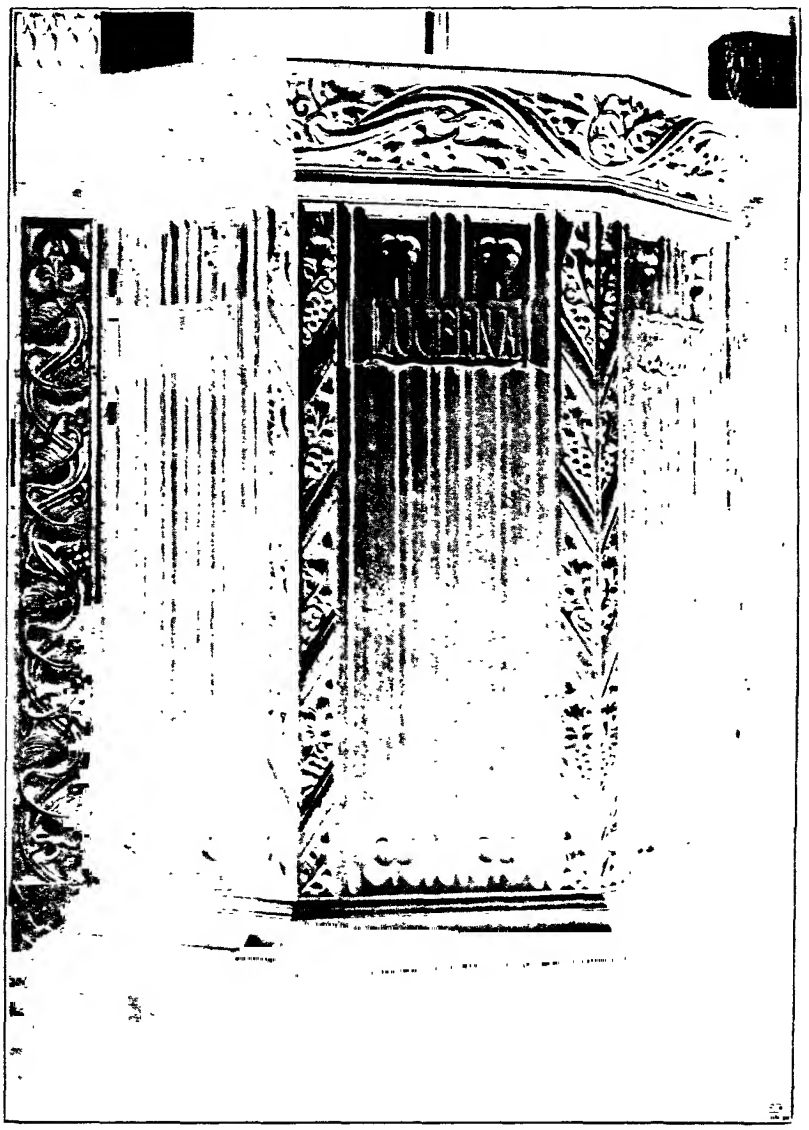


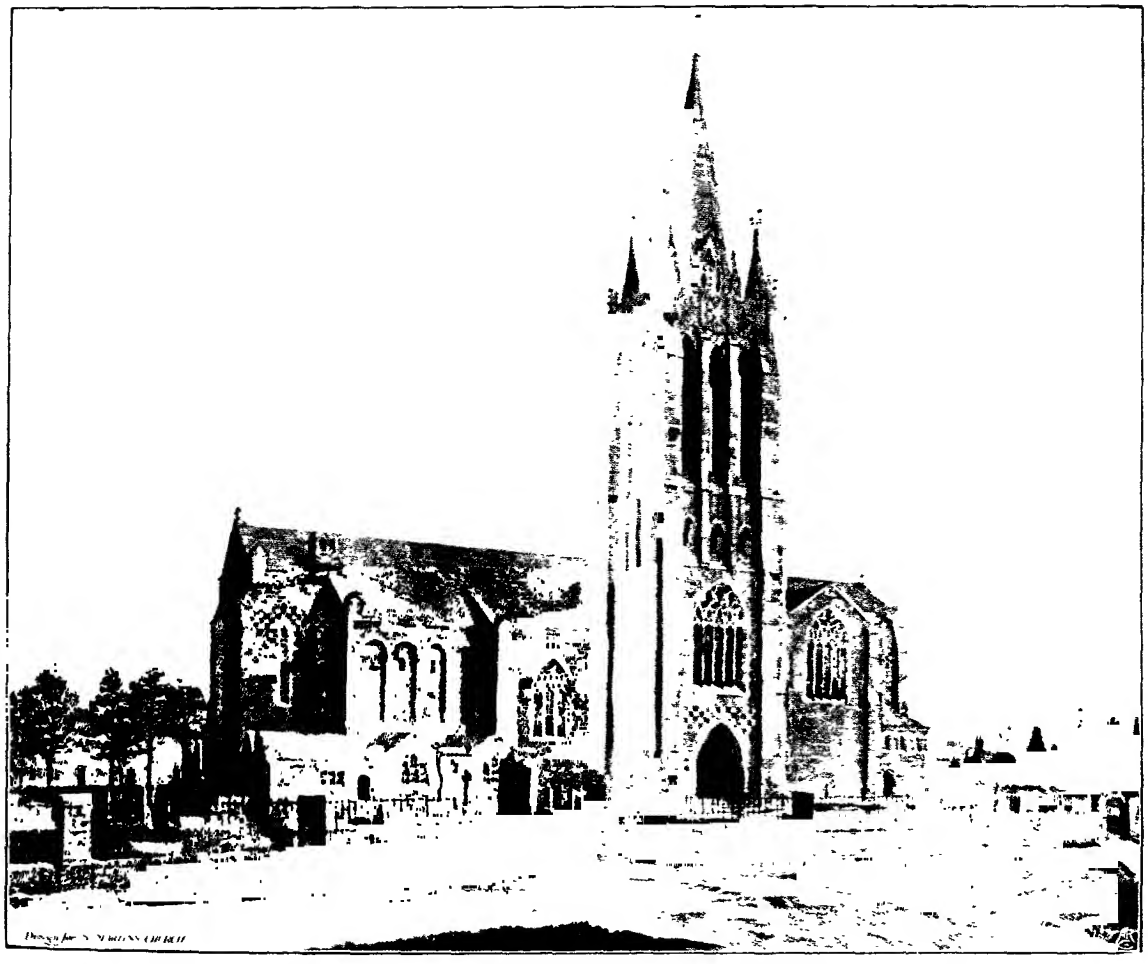
Photo Cyril Ellis Alexandra Park

PULPIT, ST. MATTHEW, HEWSLEY. (MESSRS. NICHOLSON & CORLETTE ARCHITECTS.)

ST. MATTHEW'S, COCKINGTON. (MESSRS. NICHOLSON & CORLETTE, ARCHITECTS.)

effectively the homely buildings of those once pleasant country towns. The effect of Rugby Church has been altered lately by the addition of a tall spire on its north side; that of the other church referred to has been spoiled by the addition of a paltry flèche. These unbroken roofs are to be found in most of the best modern church work; as, for instance, at St. Agnes', Kennington, and St. Michael's, Camden Town. They were used by Sedding in all his churches without, I believe, a single exception. Of course, what is true of a roof line applies also to a parapet, whether plain, pierced, embattled, or pinnacled: and it is, perhaps, felt by many people that the absence of some such simple crowning line is a defect in the external design of even so stately a church as Bentley's Westminster Cathedral.

Turning to another question, I think that many church building committees have too limited a view of the possible requirements of their localities. Instead of laying out a sufficiently large scheme at the outset of their labours, they often aim at getting a church finished quickly to hold six to seven hundred people, trusting to supply future needs by the erection of mission or district churches as the population grows. Now, from the churchman's point of view, as well as the architect's, this seems a great mistake. The organisation of a single large church is generally more efficient and less costly than that of a number of smaller ones. In a large town church, well equipped and well staffed, it is possible



NEW PARISH CHURCH, EPSOM: ACCEPTED DESIGN. (MESSRS. NICHOLSON & CORLETTE, ARCHITECTS.)
(From a drawing by Sir Charles Nicholson.)

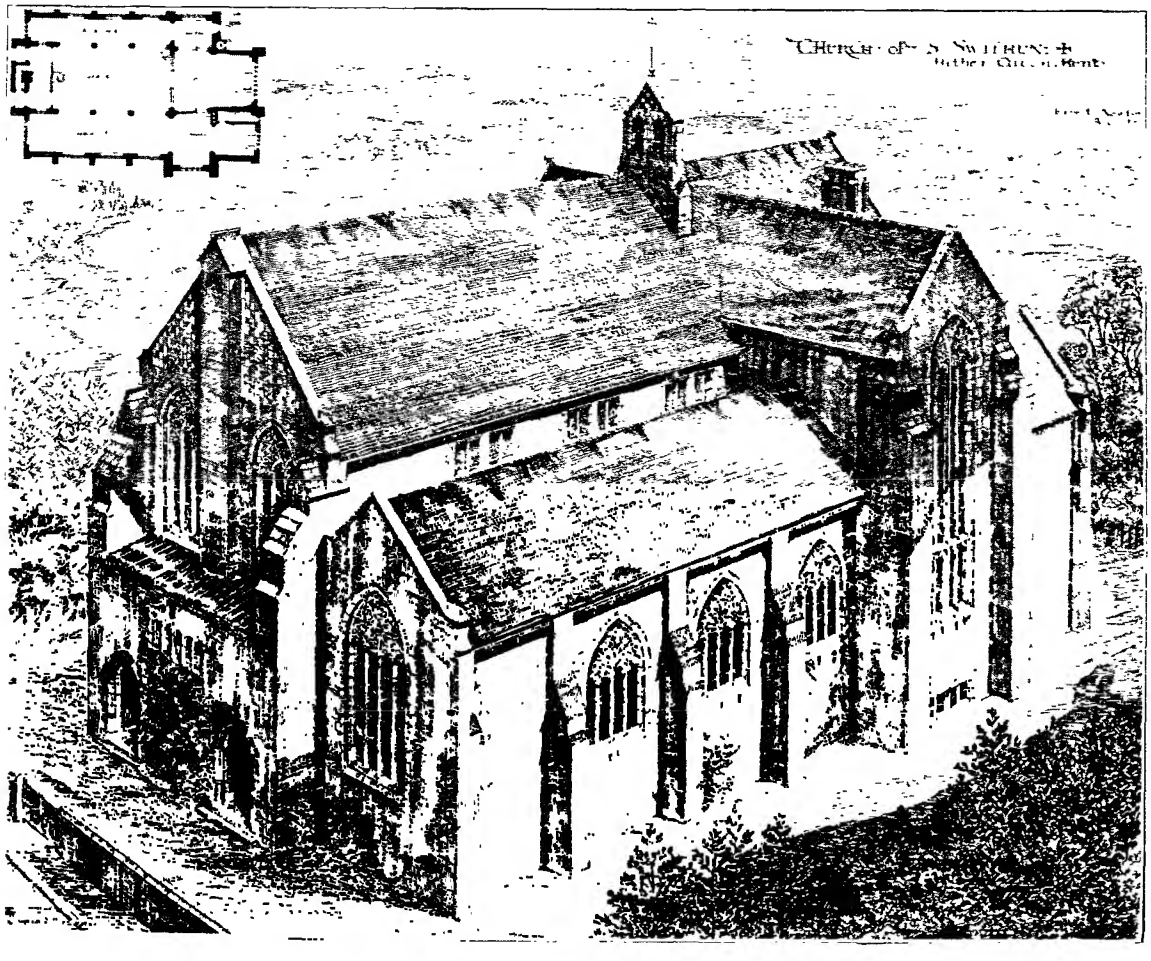
to maintain a constant succession of services with the same expenditure of labour that is now dissipated in the simultaneous performance of services in half a dozen small churches. Architecturally, it is evident that one good building is worth any number of indifferent ones. And though, in country parishes, district churches and chapels of ease are sometimes a necessity, this is very seldom the case in towns. It is bad economy that some dozen churches within a radius of a mile should have exactly the same service going on in them at eleven o'clock every Sunday morning, and it is a result of this that our clergy are overworked and underpaid, sermons are only half-prepared, churches are half-empty, and church music is often of a vulgar and sensational character. The value of concentration is more fully appreciated in the Roman Catholic Church than in the English. Abroad and in Ireland the churches are larger and better staffed than here, and the faithful have many more opportunities for assisting at public worship. In towns such as Abbeville, Amiens, Orleans, and the Belgian town of Alost, between Bruges and Brussels, one may find large modern churches, cross-planned and vaulted throughout, varying from 180 to 200 feet in length and from 60 to 80 feet in internal height. The details of these churches may not commend themselves to our taste, but the generous ideas of their builders might well be oftener imitated in this country.

But before this can be the case some national prejudices must be overcome. The Englishman looks on his church from a parochial rather than an imperial point of view. And there are certain differences upon matters of ceremonial detail which are all-important to certain tender consciences, so that before Church effort can be economically concentrated in our large towns the laity must be taught to regard the Church as a whole, and not as a mere collection of congregations, as well as to exercise more mutual forbearance in those questions of externals about which there has in the past been so much unseemly wrangling.

As regards the style of our churches it is now rather the fashion to deride Modern Gothic. The Gothic revivalists failed to establish a national vernacular architecture upon a mediæval basis, because they did not realise that in a cosmopolitan age the very existence of a vernacular architecture in the sense that they understood it was impossible. The characteristic qualities of modern design are to be found in points of planning and construction rather than in any national artistic tradition: for a modern building is identified with its individual designer to an extent which was impossible in bygone civilisations. So we are bound, whether we like it or not, to accept the Gothic revival as an historic fact, just in the same way as it was useless for the Gothic revivalists to shut their eyes to the architectural history of the age that had preceded their own. In matters architectural our position may be compared to that which obtained in France and in England in the sixteenth and early seventeenth centuries. The vernacular architecture of the age was a compromise between Gothic and Classic: under secular influences the foreign element predominated, while under the influence of the Church the national and conservative element fully held its own.

Our secular architecture of to-day, though mainly Classic in detail, is, perhaps unconsciously, strongly tinged with Gothic feeling. The ideal which our Classicists aim at is to reproduce the quaint prinness of English seventeenth-century buildings rather than the dignified severity of Greek work or the ponderous magnificence of Roman, or even the modified Classicism of the Italian or French Renaissance. And our Gothic school is by no means seeking merely to reproduce the effects which it was only possible to obtain under conditions which no longer exist. Perhaps it is because the conditions under which later Gothic work was done more nearly approximate to those of our own time than the conditions which obtained during and before the thirteenth century that the most successful of modern Gothic work is based upon late rather than upon early examples. Dog-tooth ornament and Early English mouldings are seen at their worst when turned out at so much a foot by modern workmen under a modern contractor; and even the best of the modern reproductions of Early Gothic work fail to satisfy us in the matter of detail. And no architect in his senses would nowadays attempt to build in Norman fashion. But it will be conceded that the type of work which has been developed from late Gothic models has grown up into a fairly well understood manner of architectural expression, which is both modern and English and church-like. This being so, is it worth while to cull Byzantine or Classic details for the sake of mere novelty, or to imitate or invent features which are merely picturesque, quaint, or even grotesque? Surely it is wiser to recollect that fashions which are merely odd are bound to change rapidly, and to devote our superfluous energy to the perfecting of planning and the development of construction. The secret of Bentley's success at Westminster lies in its solution of such problems as the construction of a fireproof roof system and the possibilities of vaulting a large building in concrete, and not in the clever compromises between Classic and Byzantine detail with which his work is adorned. And the wholesomest fruit of the Gothic revival is to be found in the series of vaults which Pearson poised with consummate skill over many of his churches, rather than in the miles of correct thirteenth-century Lincolnshire mouldings with which he covered his cathedral at Truro.

Regarding the conservatism and want of sympathy with modern civilisation which is laid at the door of the church architect, it may be pointed out that the requirements of the Church change but slowly, and that under the influence of the Church of England the Gothic style can scarcely be said to have been entirely disused at any period in this country. The college chapels of Oxford, built in the Stuart period, are mediæval in arrangement and Gothic in detail. Within a century or less of the completion of Warwick Church we find James Essex at work at Lincoln rebuilding one of the chapels in a manner scarcely distinguishable

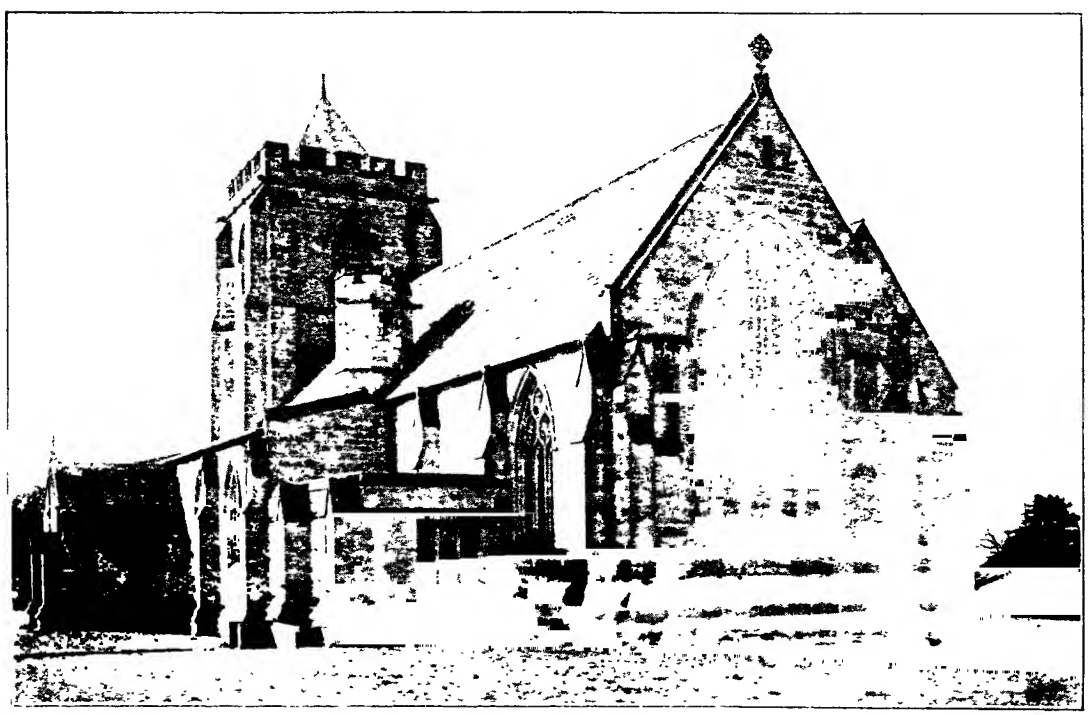


ST. SWITHUN, HITHER GREEN. (MR. ERNEST NEWTON, ARCHITECT.)
(From a drawing by Mr. Gerald Horsley.)

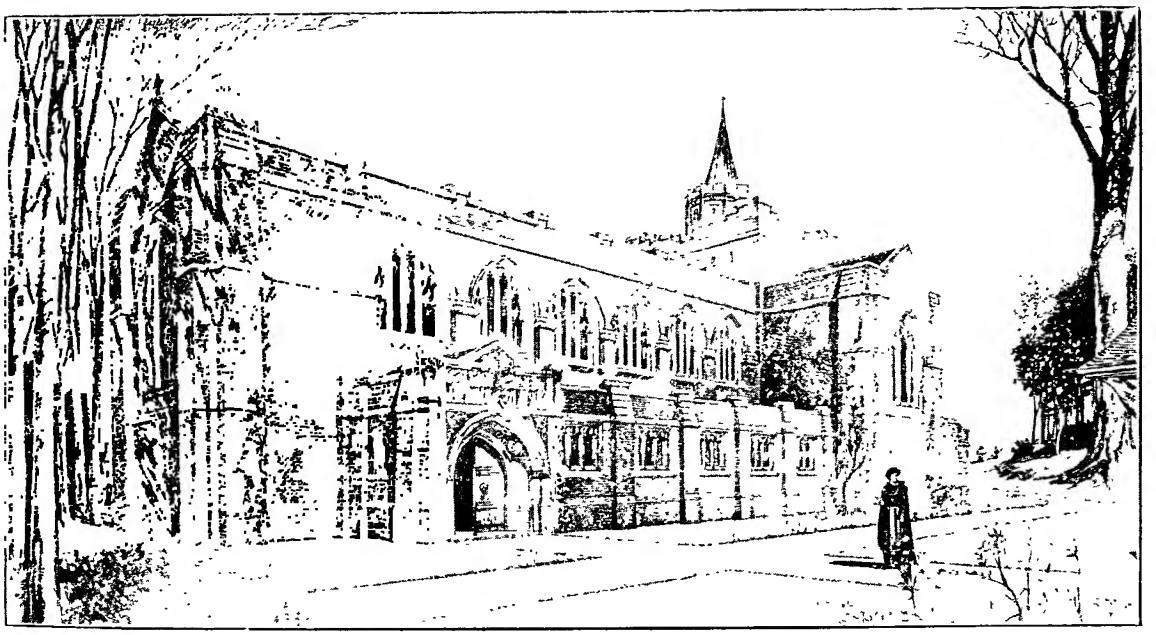
from the thirteenth-century work beside it; then came Wyatt, Bernasconi, and John Carter; then Blore and Barry; and after these Pugin and the rest of the revivalists. In no country except Lutheran Germany have so many of the details of mediæval church arrangement been preserved as they were in England until the restoration craze of the last century. The uninterrupted musical tradition that has been kept alive in our cathedrals and collegiate churches can trace its descent back into the Middle Ages. The spirit of the Church is distinctly conservative and traditional, and, in a sense, still mediæval, and it is not unnatural that our church architecture should reflect this tendency. Moreover, churches like St. Michael's at

Coventry and St. Nicholas' at King's Lynn, and scores of others, form models for town churches which would fulfil every requirement of the present day, for they are the best compromise that has yet been evolved between the conflicting requirements of ample accommodation, good acoustics, practical comfort, and architectural dignity. And this is true in an age when houses which have sheltered kings have ceased to satisfy the needs of fine ladies, and when modern municipalities have outgrown the moot-halls of our forefathers.

A direct imitation of the work of a bygone age is neither necessary nor desirable; but the fetters of precedent are not unwelcome when they impose the use of tried materials and sound constructive methods; and the church builder may at least be thankful that public opinion does not as yet compel him to build rusticated columns and battering buttresses, or to follow the other passing fashions which the competition system imposes upon those whose practice lies mainly in civil and domestic work.



PARISH CHURCH, [illegible]



CHURCH, CLACTON-ON-SEA. (MR. LEONARD STOKES, ARCHITECT.)
(From a drawing by Mr. C. E. Mellows.)

II.—MODERN CHURCH PLANNING. By Hubert C. Corlette [*F.*].

IT is not my present intention to enter upon any long description, or argument, or history of planning and design; nor shall I attempt to discuss obscure and doubtful points upon which an ecclesiologist might have much to say. Let me then draw your attention to the disposition of the parts generally, and in detail, as they may be found in an ordinary parish church in England. Our special interest as architects is in the practical requirements of planning. These are based upon the needs of the services of the Church. If we are asked to plan a church which shall be satisfactory both ecclesiastically and architecturally, how must we set about it? Perhaps the best way to say anything about church planning and building will be to take such a problem as this and consider how best to solve it. First of all, it is necessary to see the site; otherwise it is likely that the building will not belong to its surroundings. It will seem a thing out of place. A design for a town church would not do for a country village.

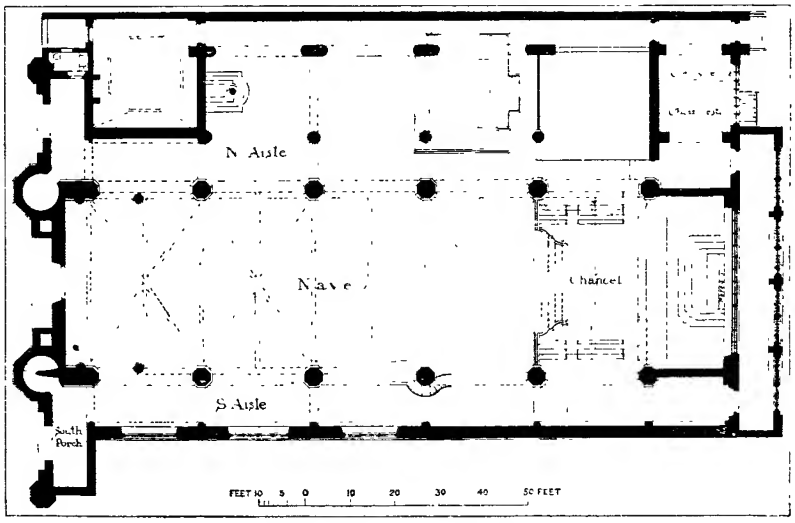
The building must, then, be suitable for the locality in which it is to rise. It should be quiet and dignified, and it can be both these without being mean and bare, even though no mouldings, carving, or other decoration are possible. These, then, are some of the first things to be considered. The levels of the site, the course in which the drains may fall, the nature of the subsoil, and the foundation with which it will be necessary to deal are elementary matters which cannot be overlooked. But if the work is to be part of the locality in which it is to be built, the characteristic type of work which has been the pride of the neighbourhood for centuries, the local materials available, and the capacities of local craftsmen should be thought of as well. These are ideas which seem to be more often disregarded than need be the case. Surely it is desirable that local materials should be used in preference to all others. There may be some reasons against the idea. But there are many which support it in being

practical as well as artistic. If with good reason this course can be adopted, is it not an excellent means by which to encourage local industry and skill? True it is that many materials must be carried a long way because we cannot get them otherwise. But those which may be procured locally are surely the best for our purpose: even if they are not so in an economic sense they certainly always must be architecturally. For to use the bricks, tiles, or slates, the stones, the sand, or any other materials which are parts of the surrounding hills and valleys, is but to make our work become a distinct portion of the soil upon which it is to stand. This is a commonplace indeed, but its observance will make a great difference to the beauty of any design, however well it is otherwise conceived. In the peculiar type of work that is the tradition of a locality we find that this course in dealing with materials has generally been followed. But it is good to study the local types so as to gain some distinct idea of the way in which we may best keep in touch with tradition. It is not necessary to copy the old work, but we must respect it and try to work in sympathy with its distinctive character and feeling.

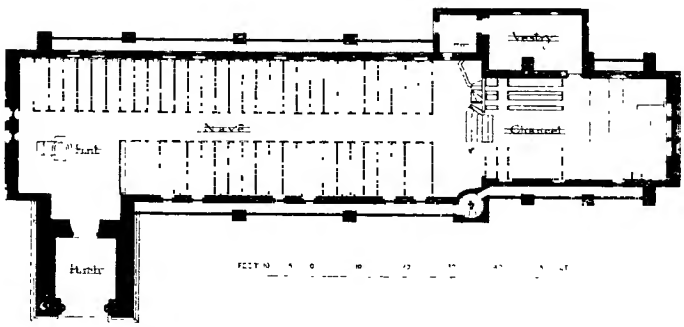
In planning a church the question of accommodation necessarily comes forward as a ruling factor. This, together with the limit of cost imposed, will decide many points. But given, as a beginning, the necessity of providing a nave to house the congregation and a sanctuary for the altar, with also space for a choir, I propose to consider these in some detail. To be as clear as possible, it will be best to take them in order and refer to the several parts of each subdivision. This will enable me to notice various matters as they arise. Two practical needs are to be satisfied: for the first the sanctuary, and for the second the nave, is provided. These are the two things necessary. But they involve many others. In building churches many practical questions arise. They do not concern only general arrangement and the principles which should govern our ideas in planning. These last are of great importance undoubtedly, and they lead us to consider church history, and face problems requiring very careful study. But the practical things to which I refer are those details which always arrest us in scheming a design. I am not now thinking of such details as mouldings, carving, and other purely decorative aspects of the subject, nor questions of construction. The particular points that make us hesitate are those relating to things like steps and their arrangement, the position, size, and spacing of seats and other furniture. It is with some of these I wish to try to deal now. Ordinary ideas of construction and the design growing out of them may be simple or not. These we decide, perhaps easily, according to our own particular inclination. There are, however, many things connected with the disposition of the essential parts of the sanctuary, the choir, and the nave which must be faced. The leaflet issued by the Incorporated Church Building Society concerning "architectural requirements and suggestions" is of considerable help in dealing with these. But it may be of some advantage to take up the matter and consider it in more detail. Generally speaking, we may subdivide the subject as follows:—

1. The sanctuary: *a*, altar; *b*, reredos; *c*, steps; *d*, altar-rails: *e*, sedilia; *f*, piscina and credence: *g*, altar and sanctuary lights.
2. The choir: *a*, reading-desk; *b*, choir-seats; *c*, lectern; *d*, steps: *e*, screens; *f*, organ.
3. The nave: *a*, seating: *b*, aisles or passages; *c*, porches: *d*, narthex: *e*, font; *f*, pulpit; *g*, litany-desk; *h*, floor levels.
4. The side chapel.
5. The vestries, sacristy, cleaner's room.
6. Lighting, heating, ventilation, drainage, roofs, musical considerations.

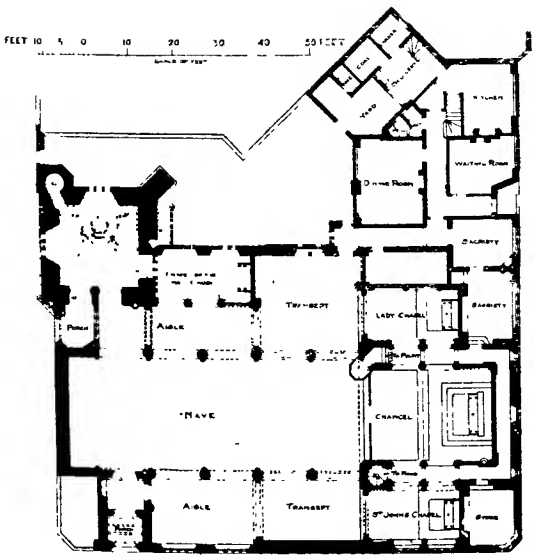
It will be unnecessary to refer to all of these. The more important will be noticed only. In the notes which follow it should be understood that, generally, my references are



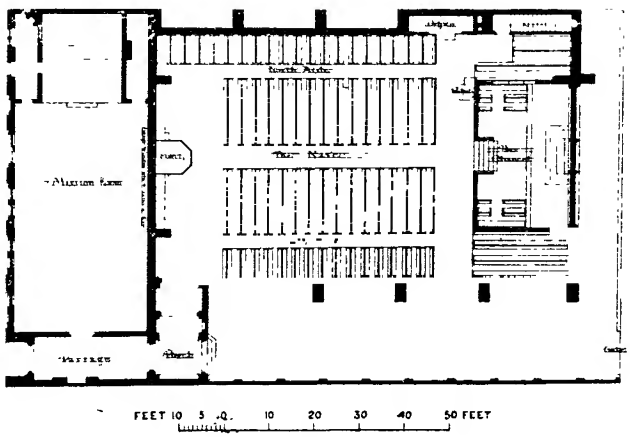
HOLY TRINITY CHURCH, SLOANE SQUARE, LONDON. (THE LATE J. D. SEDDING, ARCHITECT.)



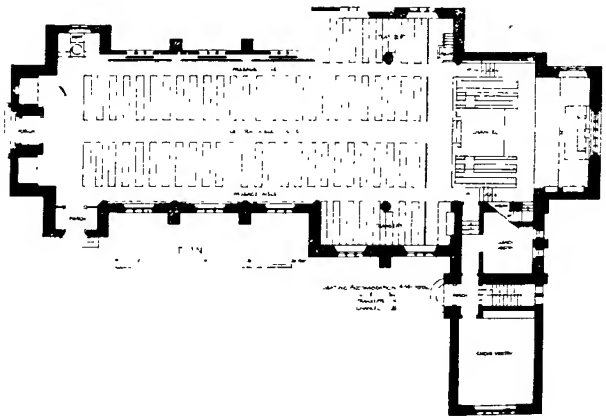
CHURCH AT PORT ELIZABETH, S. AFRICA. (MR. R. NORMAN SHAW, R.A., ARCHITECT.)



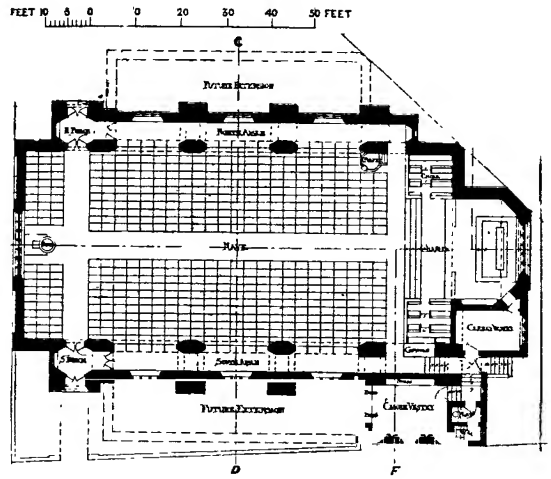
R.A. CHURCH OF THE HOLY ROOD, WATFORD, HERTS.
(THE LATE JOHN BENTLEY, ARCHITECT.)



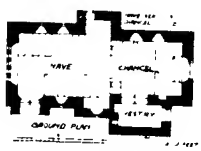
THE HARROW MISSION CHURCH, LATIMER ROAD, W.
(MR. R. NORMAN SHAW, R.A., ARCHITECT.)



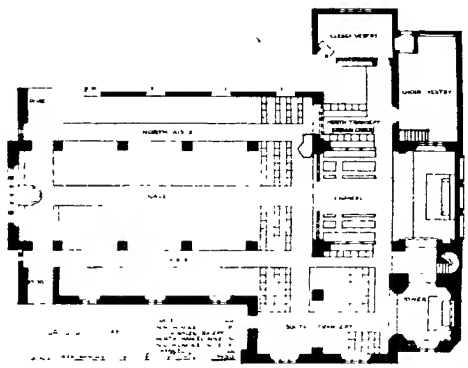
PLAN: WIDE NAVE, NO ARCADE PIERS.



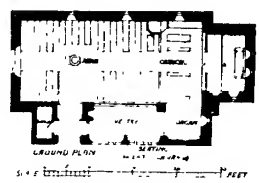
PLAN: WIDE NAVE AND PASSAGE AISLES.



PRIVATE CHAPEL, LEDCEST
CO. MAYO.

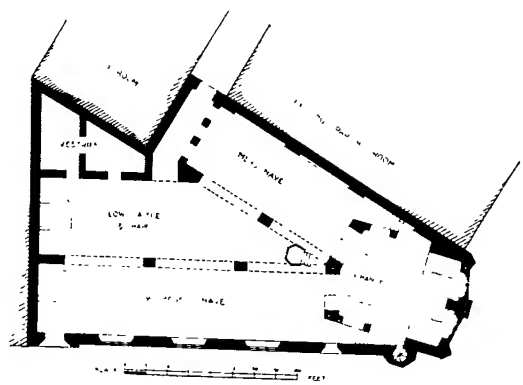


ST. ALBAN'S, WESTCLIFF-ON-SEA.



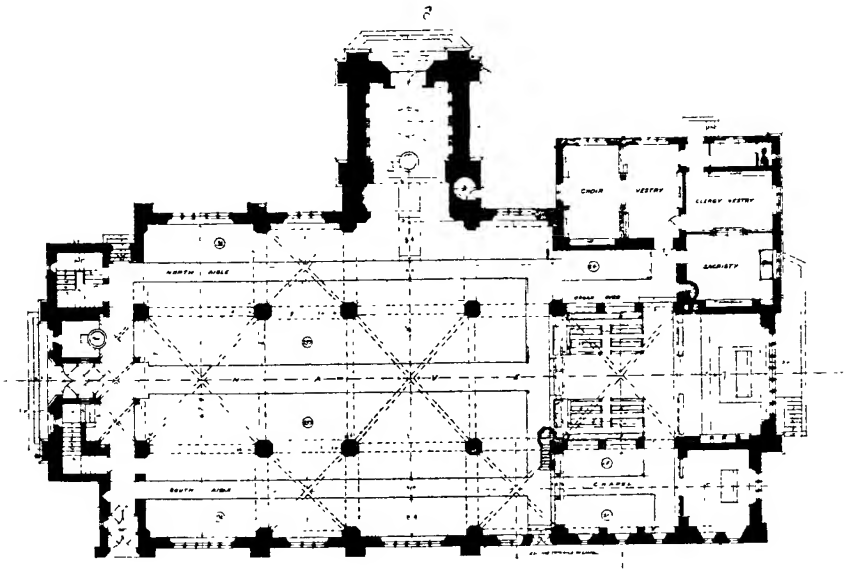
CUMBRIDGE, OXON.

ST. MATTHEW'S, CROYDON, TORQUAY.



PLAN: A CONFINED LONDON SITE.

VARIOUS PLANS BY MESSRS. NICHOLSON & CORLETTE, ARCHITECTS.



GROUND PLAN.

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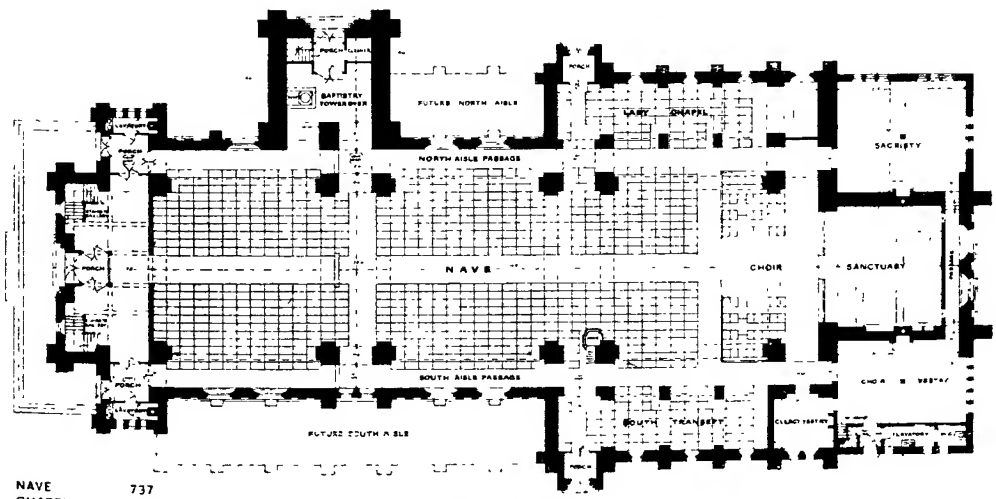
Accepted Design. **NICHOLSON & CORLETTE, Architects.**

Nave and Aisles	850
Gallery	75
Chancel Aisle	24
Chapel	56
Church	1,005
Chancel	24



NAVE	737
CHAPEL	88
TRANSEPT	88
GALLERY	93
CHURCH	1,006
CHOIR	52

GROUND PLAN

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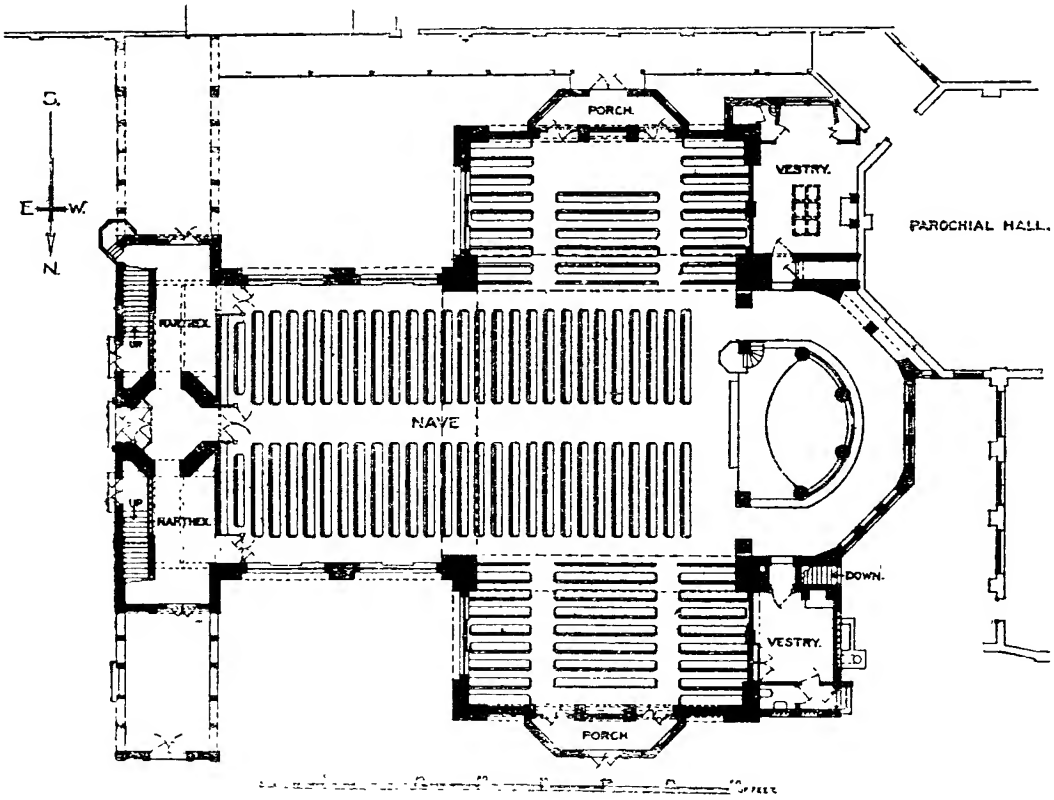
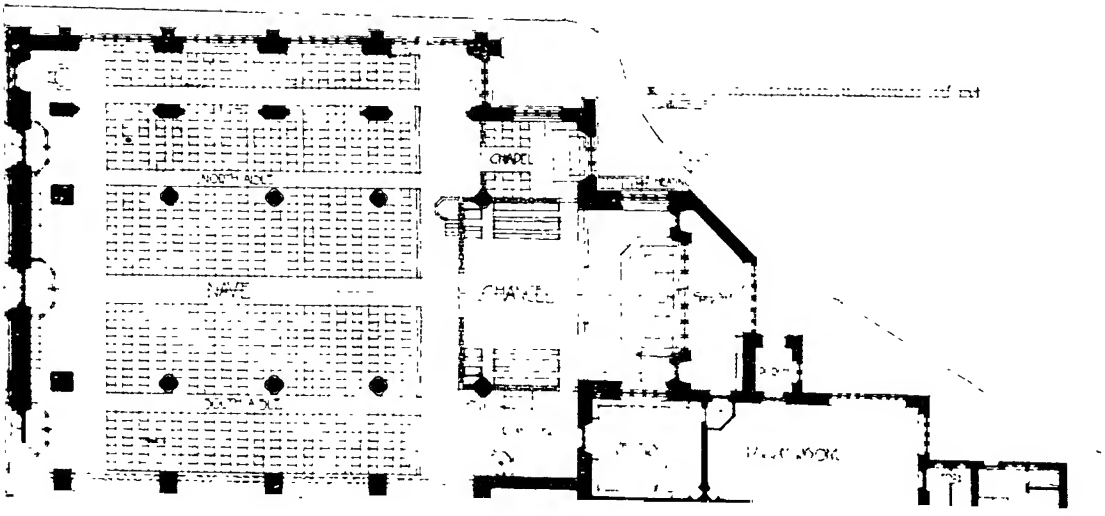
Alternative Design. **NICHOLSON & CORLETTE, Architects.**

PROPOSED NEW PARISH CHURCH, EPSOM.



CHRIST CHURCH, BRIXTON (PROFESSOR BERESFORD PITE, ARCHITECT.)



HOLY TRINITY, KENSINGTON (MR. G. L. LOBB, R.A., ARCHITECT.)

to the requirements of a parish church of average size. This would be, say, a building to hold a congregation of five hundred or one thousand persons in the nave. In this manner we may avoid confusion by limiting the field of our present inquiry.

In this list are mentioned only the usual divisions of a sanctuary, with the choir and the nave, as comprised in a church; and these are the necessary ecclesiastical and architectural parts of the building. The choir, as distinct from the sanctuary, is the chancel proper. Its name is derived from the *cancelli*, or screens, of the early plans, which separated it from the nave and sanctuary.

It is obvious that transepts and aisles, for seating, or other parts may be introduced at will if the accommodation without them would be insufficient. The use of a church is primarily for a congregation of worshippers, not sightseers or listeners. It is only in a secondary sense that it is necessary as a place for instruction by preaching. Consequently the altar is first to be considered, together with those conditions growing out of its use and position; after it the pulpit, and the accommodation of a congregation, so that a speaker may be seen and heard, will require attention.

To take the sanctuary first in order is but to concern ourselves with the most important part of the building to begin with. The chief reason for building a church at all is that we may provide a sanctuary for the altar, to screen it from desecration or any kind of intrusion. And we must understand that this is so, else all our planning will be constructed from an entirely wrong beginning. You cannot have a Christian church without the altar—call it "communion table" if you will. We may make the nave a mere temporary shelter for the congregation; but there must be full and sufficient provision for shielding the dedicated altar. It must be protected, screened with reverence, because of the purpose for which, peculiarly, it is set apart. The mere thing itself may be of no account as of wood or stone; but once placed in position, once consecrated to be what it is, it must be protected.

So much for the way that we should regard the altar as the culminating point of all church planning. And we shall probably attain this end best by making it of good materials, simply, almost severely, restrained in design.

Unless we mean to make this point the reasonable cause of our building, the focus towards which all the idea of the design is drawn so as to give unity to the whole conception, we shall fail to make the church serve its true purpose and satisfy the aim of its beginning.

Following the accepted custom of English planning, we place the altar at the east end of the building, and enclose it more or less within the sanctuary; and in conformity with the usual practice it should be close, but not in any way attached, to the eastern wall. It may be placed so as to be against a reredos between it and this wall. In some cases a clear space of about two feet only is allowed to intervene between the altar and the east wall. In others there may be a reredos against the wall, then a retable between that and the altar itself. But it is better if we may bring the altar and reredos bodily forward some distance into the sanctuary. It must be admitted that the altar is far too often crowded up close against the eastern wall, as if it was the last thing to be thought of in a plan. To place it as if it were only admitted as an after-thought squeezed into the last available corner of the building does not help to give it the dignity and meaning it must have. There is no sanction for such a method in the practice followed during the early centuries. Quite the reverse. For the altar was regarded as the most important thing in the plan, and it was made to appear so by the position given to it. Especially was this the case in all the early basilican and later plans up to the fifteenth century. The Reformation as an accomplished fact did its work and retained the altar, knowing what it did. But Protestantism, coming a century later, was a different thing, and forgot that its protest was originally against innovations and in defence of

the altar services. The length of the altar, as well as the height of the foot-pace above the nave floor, will depend largely upon the dimensions of the church. A small altar in a large

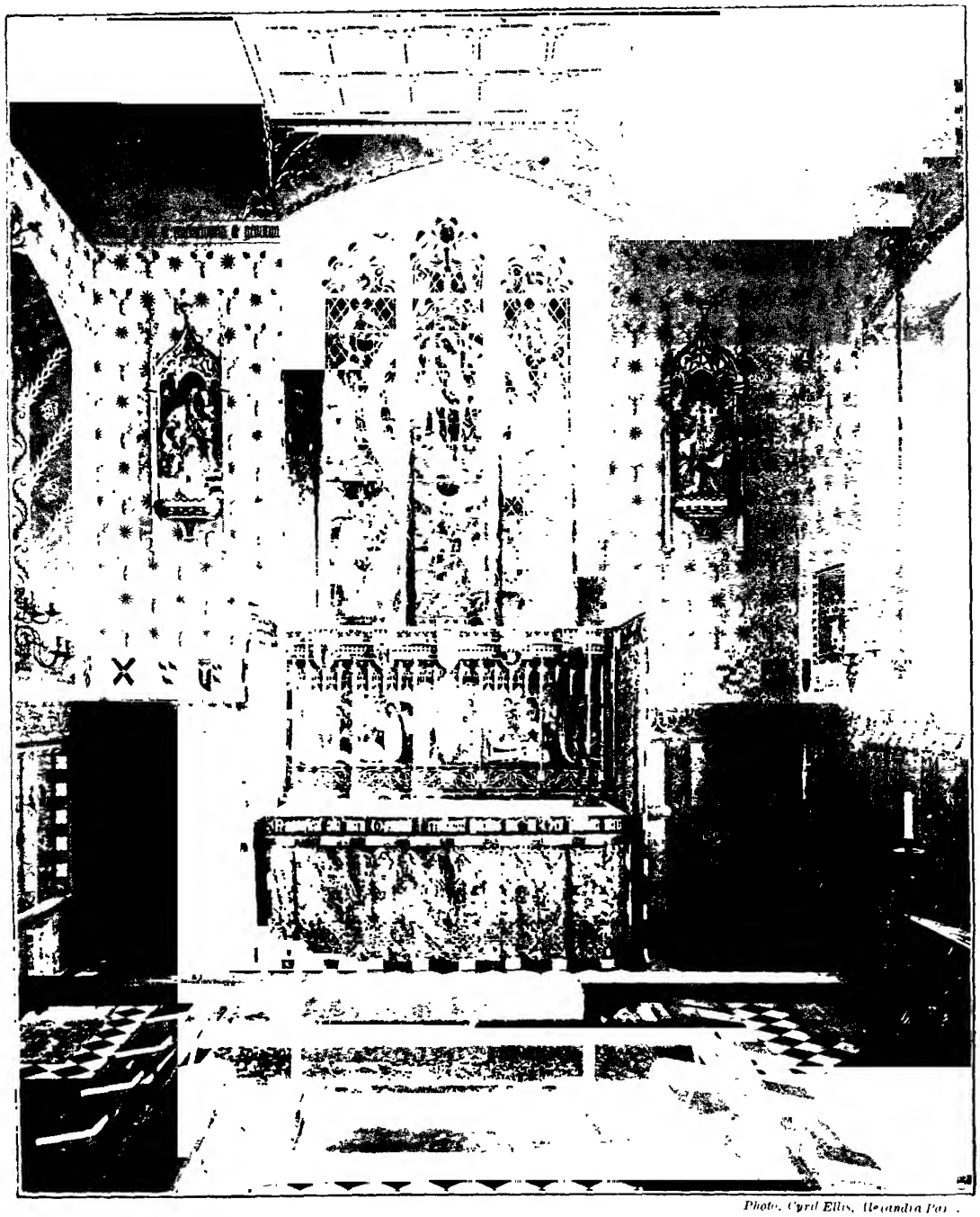


Photo. Cyril Ellis, Alexandra Pal.

PARISH CHURCH, KENSING, NEAR SEVENOAKS. (ALTAR AND REREDOS STAINED GLASS AND DECORATIONS BY MR. COMPER, ARCHITECT.)

church would seem a makeshift, and one that was too large in a small church would be equally out of place. But experience has shown that the *mensa*, or slab, the table-top,

which is the altar itself apart from its supports, should not be less than 7 feet by 1 foot 8 inches. But this would be small; 8 feet is better as a minimum length; and the top of

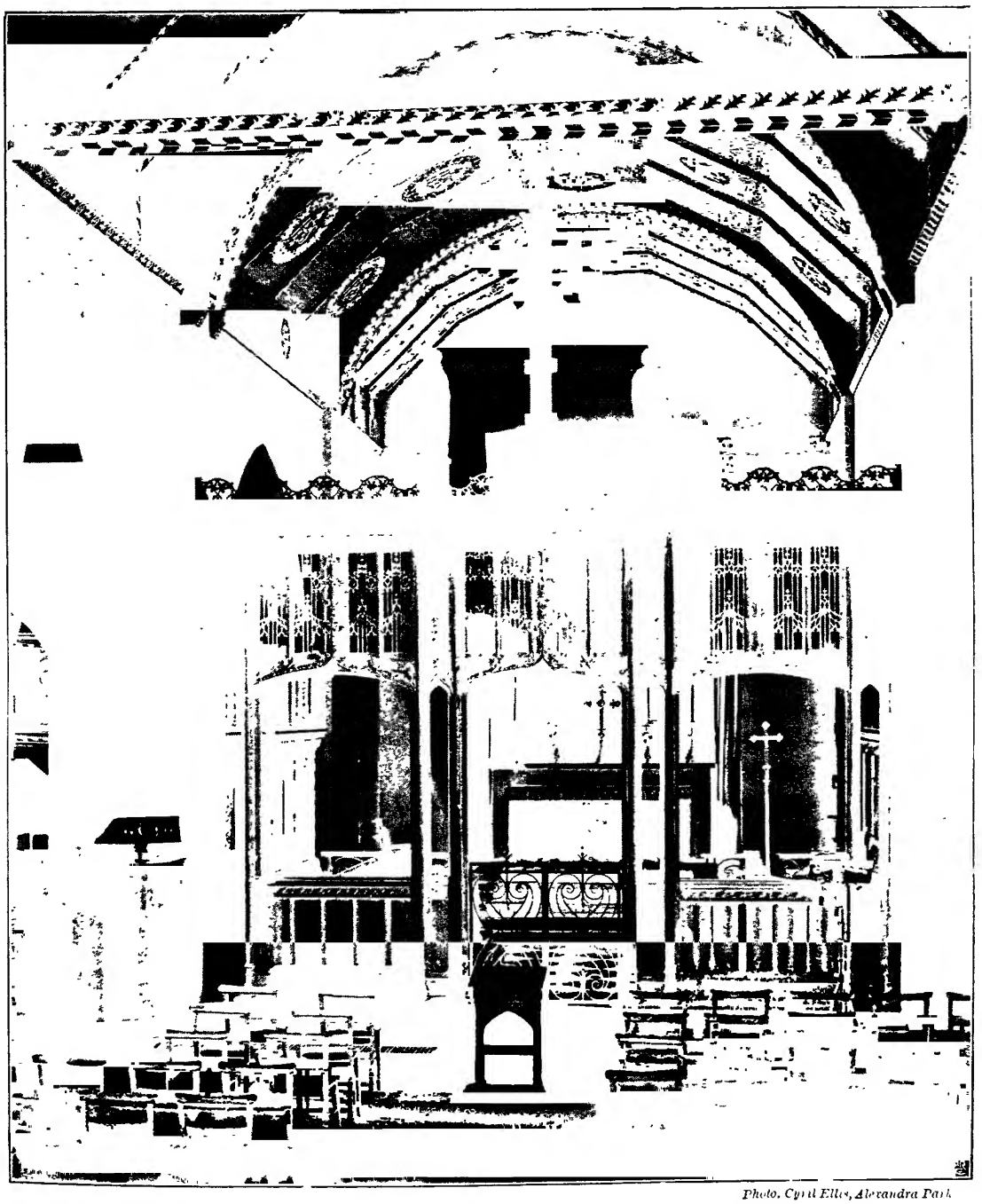


Photo. Cyril Ellis, Alexandra Park

ST. ALBAN'S, WESTCLIFF-ON-SEA. (MESSRS. NICHOLSON & CORLETTE, ARCHITECTS.)

the altar-stone should not be less than 3 feet 3 inches nor more than 3 feet 6 inches high above the foot-pace, or platform, upon which it stands. It is seldom necessary that the

altar should be more than 2 feet 3 inches wide, nor for ordinary purposes more than 8 feet to 10 feet long. A longer and wider altar is, however, desirable in a large church. It should be so placed in the sanctuary that the length of it is north and south, with the long sides towards the east and west.

I mention this because it should be recollected that from the earliest days of the Church, until the seventeenth-century destructions began, the celebrant has always faced eastwards. In the oratories of the Catacombs he faced east, with the people, as leader in worship; and in those churches of which there is so long a record, where the altar was at the west end and the entrance at the east, the celebrant still faced eastwards but towards the congregation. It is quite true that the altar during the seventeenth and eighteenth centuries was treated with scant respect. Many records of those times show that in not a few instances, though the altar or its substitute still remained in the churches, it was in too many cases neglected and disused entirely for years except as a convenient table to carry discarded hats and cloaks.

Though an altar was in earlier times usually fixed in a permanent position, it is now generally required that it shall be movable. Consequently it is often built entirely of wood, including the top. But there is no reason why the *mensa*, or slab, should not be of stone. This expedient is frequently adopted without objection.

If a cross and candlesticks are used, and vases required for flowers, these should stand, not upon the altar, but upon the shelf or retable at the back of it, and at a slightly different level.

Unlike the pulpit the altar need not necessarily be so placed as to be in full view of the whole congregation. It is quite possible for people to worship and to follow the service in detail without having the altar fully exposed to their observation, though as many as possible may well be permitted to see into the sanctuary. But, on the other hand, it is not desirable that the altar should be altogether hidden and screened, as seeming to exclude the worshippers who are present to take part in the service of the church.

Though the reredos cannot, in one sense, be said to affect the plan of a church, yet it does most certainly play a prominent part in all questions of design. It is a portion of the design, not only of the sanctuary, but of the whole building, that calls for very careful treatment. And, as a rule, it should be wide enough to extend a little beyond the ends of the altar. Naturally, no fixed law can be suggested which shall decide its height. That is a matter of design. An east window is not always necessary. It is sometimes undesirable and occasionally impracticable. Often it is placed too low in the wall, and when this is so the reredos will call for a design involving horizontal, rather than vertical, lines in composition.

The reredos is an interesting object in many ways, and we all know how fine a thing it may become under the hand of some designers. It gives an opportunity for the use of some of the highest forms of artistic expression in colour or form. In it the architect, painter, and sculptor, the carver and worker in metals, may use all their best faculties and ideals in producing a resulting work of admirable architectural beauty. On the other hand, in its simpler forms, we may use the dorsal or hanging with side curtains. These might be plain fabrics, depending upon colour and texture alone for the effect they produce, or of a material like tapestry in which the work of the weaver, designer, and colourist are combined. Historically a reredos is the Gothic representative of the Italian "baldacchino" and the Greek "iconostasis," and all these have their origin in the curtains and their supports, which were used as early as the third and fourth centuries to screen the altar ceremonial, so that it is not an object which derives its sanction from either of the great sections of the Church. It is a feature which had its origin in the liturgical usage of primitive times.

In speaking of the steps in and about the sanctuary we approach a rather debatable

question. Many of the clergy and some architects are agreed about a few essentials concerning them. Probably no one will deny that the altar should be placed upon a platform

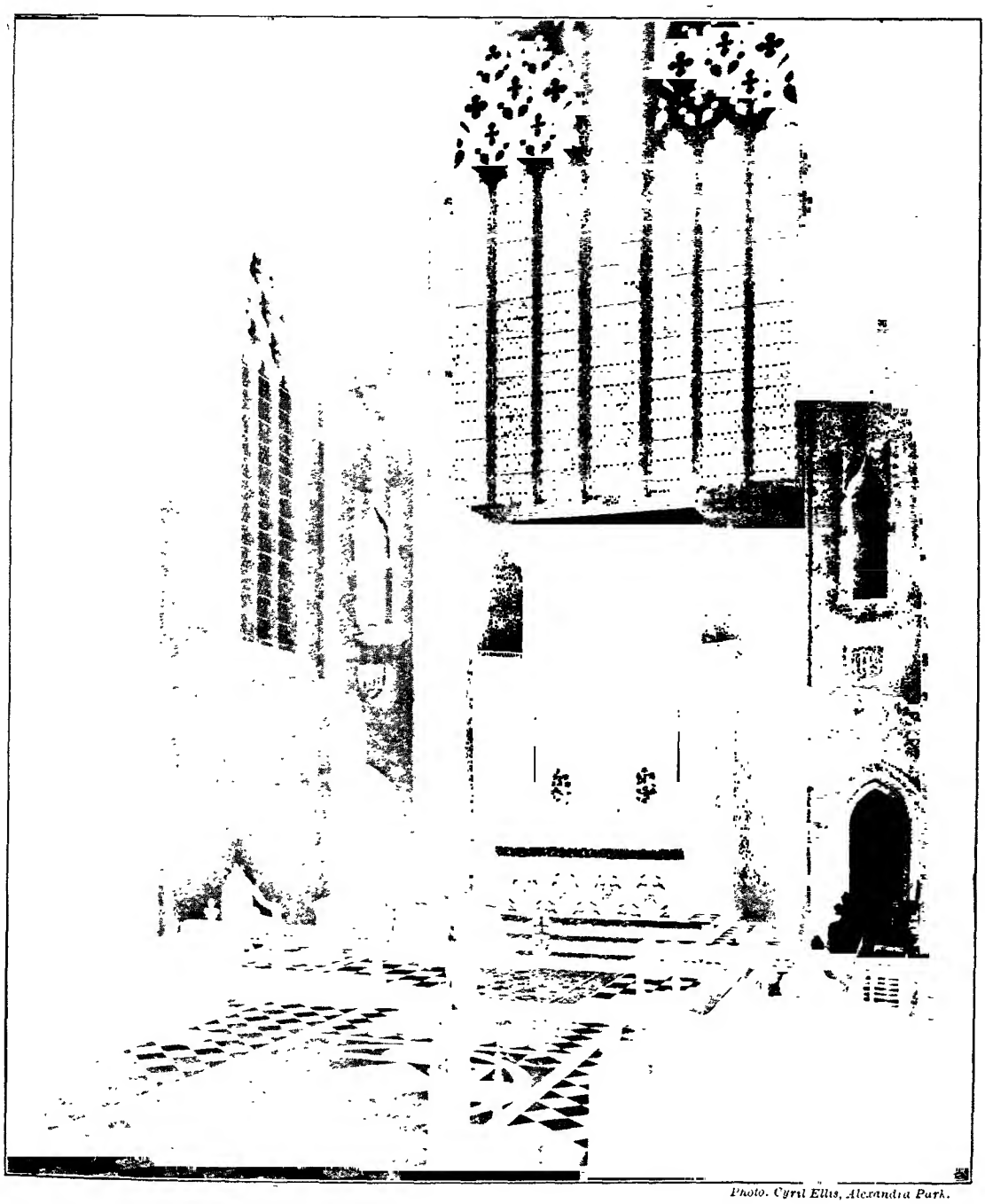


Photo. Cyril Ellis, Alexandra Park.

HOLY TRINITY, KENSINGTON GORE. (MR. G. F. BODLEY, R.A., ARCHITECT.)

of some sort, so as to separate it, and lift it, as it were, away from the surrounding levels of the enclosed sanctuary. Ecclesiastical history expressly supports such an idea. How high this platform should, or may, be is a question to be decided largely in particular cases as

they arise. Ordinarily seven or eight steps above the nave level are sufficient. The top step or platform is necessary for a further reason. The altar must be so placed that it may appear a thing of importance and of dignity from whatever part of the body of the church it is seen. It should be so treated for more reasons than one. In an ecclesiastical sense it becomes the centre towards which the attention of all is directed, and, architecturally, is it not in the altar that we should find the focus to which all the rest of the internal design is subordinated, and up to which it all leads? Is it not the object which has made it necessary to build the church at all? But common sense may be recommended to others who would, in the extravagance of their desire for what is called "effectiveness," lift up the altar so that it stands at the end of a kind of ladder. This last device is often a cause of inconvenience to those who have to serve at the altar. There are then some practical aspects to this question of the steps in the sanctuary, and it seems that we may conclude that the essential things to observe are two in number.

First, the altar should be raised above the level of the nave floor. In a long and large church it may with advantage be higher than in a small and short one. Otherwise, in the former case, it might be too low to be seen at all. Next, there should be one step, and one only, at the entrance to the sanctuary from the choir.

Let us proceed to consider these two axioms at more length. It will be a simple inference from the first that it is actually necessary only to have the altar raised one step above the sanctuary floor level in a small building. But if the platform or base upon which it is to stand shall be more than 6 inches high there should be more steps added. If, however, there is to be but one step, it should not exceed 6 inches in height. None of these steps in the sanctuary or choir should rise more than 6 inches, and the rise of all of them should be the same. The treads of all steps within the sanctuary should be of uniform width. None should be less than 12 inches, nor need they be more than 24 inches wide from riser to riser. A better average width for the treads is 18 inches. But that portion of the platform for the altar which is next westward of the altar itself is the foot-pace, and it cannot be regarded merely as a tread in the ordinary sense. It is the space upon which the celebrant will stand during any service at the altar. This being so, it should provide sufficient room for him to move upon it without inconvenience. Consequently the foot-pace cannot well be less than 3 feet deep from the front of the altar westwards, and it should, in addition, always be at least as long as the altar. So in this way we arrive at the conclusion that the top of the platform for the altar may be no less in length north and south than the altar itself, nor less in width east and west than 3 feet, in addition to the width of the altar. The foot-pace may with advantage be much deeper than this, though it is seldom necessary that it should project beyond the ends of the altar more than about a foot each way. Supposing, however, that the altar platform is to be more than six inches above the sanctuary floor! This possibility invites us to further thought. One of the first things to decide in such a case is the amount of space you will allow between the riser of the step at the entrance to the sanctuary and the riser of any other step within the sanctuary next east of this. This is important. For unless the space allowed is liberally sufficient the administration of the Sacrament to the communicants kneeling on the sanctuary step, before the altar rail, can only be effected under difficulties. To avoid any risk of disorder which might be caused by the clergy being unable to pass conveniently to and from the recipients, it is advisable to allow no less than 6 feet here. Or, if you measure from the back of the altar rail, 4 feet 6 inches would suffice. These figures would allow a foot for the tread of the sanctuary step as a kneeling space for the communicants and 6 inches for the altar rail. If your area is limited it would do if 1 foot 3 inches were allowed for the step and rail. But when there is no reason

against making this space within the rails much wider, it is well to take advantage of the opportunity.

The additional steps between the foot-pace and the sanctuary step may be variously arranged according to the guide of sense, of use, and beauty of contrivance. If they are close up to the foot-pace, and returned at the ends towards the east, 6 feet clear should be allowed north and south of the outer step, between it and the walls. It would therefore be unwise to return more than one, or at the most two, unless the sanctuary is wide. Taking the altar as 8 feet long, the projection of the platform at the foot-pace level as a foot more added to each end north and south, one extra step as 1 foot 6 inches for the tread added also at each end, we have a length over all of 13 feet. Add to this 6 feet clear to the walls and you have a sanctuary 25 feet. But we may deal differently with these extra steps. The foot-pace may be kept 8 feet long, being the length of the altar, and the added step may be the same length. This, with the 6 feet free space, would allow the sanctuary to be but 20 feet wide. Another way would be to carry the extra step or steps across the entire sanctuary, and so elevate the whole of the eastern part of it. And this is a method to which no objection can be raised. It certainly means that those serving within the sanctuary must traverse these steps; but they can do so without much inconvenience or exertion. It is simpler, and far less troublesome, if you confine the additional steps to some immediate relation with the altar platform. If there is unlimited room, and you may have a really fine sanctuary, make it large. Then the altar and platform may be well detached from the east wall and stand forward into the sanctuary with advantage. There may be the steps close to the platform, returned round it, with a wide space between the lowest of these and one or two carried across the entire sanctuary. On the other hand if the site is in a town it may be confined and a limit placed upon the space available for a sanctuary. If this is so, everything possible should be done to make the sanctuary worthy of the object for which it is used. But it must be convenient, useful first, and dignified. All unnecessary steps should be discarded. And if it must be 18 feet wide only it may still be quite convenient if, the altar remaining 8 feet long, you curtail the space north and south of it to only 5 feet. I have said that there must be but one step only at the entrance to the sanctuary where the altar rail is placed. And this is essential. For to put two creates an inconvenience at once which adds nothing to the use or dignity of the whole scheme. A second step means that the recipient kneels on a level lower than that on which the ministrant stands. He necessarily is obliged to bend over the rail and down towards those who are receiving; and to cause him to do this is to put, needlessly, a physical strain upon him. It is argued that a thick cushion spread along the lower step will avoid this difficulty. So it will in a sense. But a simple strip of decent carpet on one step is better, and it would not then be necessary for the communicants to kneel on what has become, by the use of a cushion, a step 12 inches high. A better course would be to omit any step raising the sanctuary above the choir, and to let the communicants kneel on a step attached as part of the altar rails. A carpet in the sanctuary up to the foot-pace is a very useful and beautiful addition. It should always be chosen with great care.

There has been already some reference to the position of the altar rail in relation to this sanctuary step. But it is necessary to add that the top of the rail should be no more than 2 feet 3 inches high above the tread of the step. And if the rail is not continuous but in two complete distinct sections, without any connection, the two parts should have a gap of not less than 5 feet between the ends in the centre.

Before passing on to other matters let me suggest that the true place for any distinction between one division of the church and another is at the entrance to the sanctuary, not at the

entrance to the choir. If anything in the nature of a chancel arch is used, let it be placed above the entrance to the sanctuary. If there is to be a screen between one part of the church and another, should it not be here? If this plan were adopted, the screen might be placed on a step above the choir floor, and the altar rail at a convenient distance 5 or 6 feet eastward of this. This would be a suitable position for the rood screen in a modern church with a choir of laity; and an arrangement of this sort is suggested by the columns which were placed as a screen, at the entrance to the sanctuary, in some of the early plans. The arcus triumphalis of the basilicas occupied a similar place.

In planning the arrangement of the sanctuary, provision should be made for the sedilia, the seats for the celebrant and his assistants. It is sufficient for ordinary occasions if room for three seats only is provided. Others may be introduced apart from these as may be required, and room must be allowed for them. The sedilia as a rule should be on the south side. They may be structural or not. If structural, it will not be difficult to find room in the thickness of the south wall; for the seat need be no more than 1 foot 6 inches deep, and 2 inches of this depth may well be obtained by projecting the nose of the seat beyond the surface of the wall. The length should allow 2 feet at least for each person, since those using them would be vested. To accomplish this easily it is perhaps better to have no fixed division between the spaces allowed for each person. These seats are the modern representatives in a parish church of the old cathedra, or chair, for the bishop and the seats for the presbyters, which were usually found ranged round the basilican apses on the further side of the altar westward. These were the seats of the superior clergy, who in this case faced towards the nave. The lesser clergy, including the whole body of the deacons, were seated in the lower choir or chancel.

Close to the sedilia, in the wall on the same side, the credence table, or small shelf, and piscina should be provided. The shelf should be large enough to hold the vessels required for the service of the sanctuary. This shelf now takes the place of the earlier table of prothesis which used to stand outside the sanctuary, and on which the vessels were placed ready, and then prepared for use, before communion. Its size will depend upon the use that will be made of it. But in any case it is better that it should not be less in area than 1 foot 6 inches square. The piscina should be slightly hollowed out, like a saucer, with a hole in the centre connected by a pipe with a small dry well below. The shelf and the piscina may be on the same level, side by side, or else the latter may be placed beneath the former. If the shelf is from 3 feet to 3 feet 6 inches above the floor it will suffice. The position of them may be either east or west of the sedilia as circumstances dictate.

In some cases you may be asked to provide for standards which shall act as supports for two lights, one near each end of the altar. These lights are more used now than they were formerly. And as this is so, it is necessary that an architect should know where they may be placed, should he be required to arrange for them. It is not necessary to suppose them to be a modern innovation, for they continued to be used on, or by, the altar from the time of Edward VI. till about 1830. So they are really no new thing in the services of the Church in England. The seven lamps at the entrance to the sanctuary, sometimes seen in churches now, are derived from a practice common in the early days of Christianity. And, no doubt, this idea was originally suggested by the seven-branched candlestick which stood in the Holy Place in the Tabernacle. I have dwelt thus at length upon the plan and arrangement of the sanctuary because it is the key to all the other provisions in the church.

We have now to consider the choir. This, like the sanctuary, should not be less than 18 feet wide. For with a minimum space of 6, or 8 feet, which would be better, between the fronts of the boys' desks there will remain room for two rows of seats which should suffice for the choristers. And with this limited width it will be necessary to place the reading desk,

or desks for the clergy, in the same line with the choir benches. A passage of 2 feet is sufficient to separate these desks from the benches. In some cases the reading desks

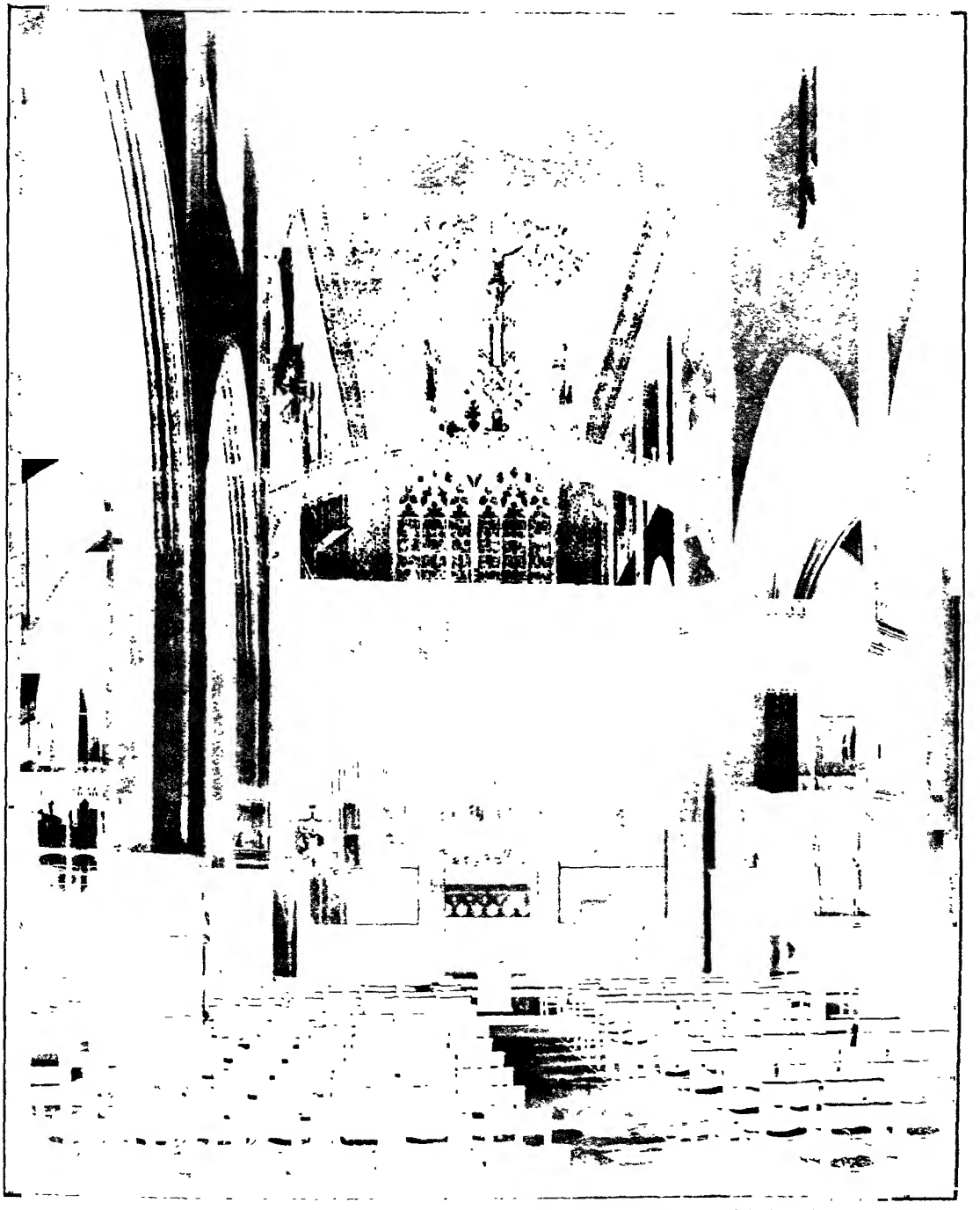


Photo. Cecil Ellis, Alexandra Park

ST. AGNES', KENNINGTON. (THE LATE G. G. SCOTT, JUN., ARCHITECT.)

may be placed as "returned" seats, so that the clergy face with the congregation. But such a position for these desks is objected to by some as being unsatisfactory, though

liturgically there would seem to be no objection to such an arrangement. As with the sedilia, the space allowed for the clergy should be no less than 2 feet for each sitting, though more room than this is desirable if it can be provided.

In the seats for the choristers the space from back to back of the benches should not be less than 3 feet clear. If a gangway is necessary, separating the benches in any part of their length so as to give access to the back bench, it should be not less than 2 feet wide. But the passage by the end of the choir desks next to the sanctuary should be much wider, and for this reason. If persons are kneeling at the altar rail it will be necessary for those who have already received to pass out of the choir between them and the benches. This they cannot do without possible tripping if less than 4 feet or 5 feet is allowed. I am assuming by this that provision is made for allowing the returning communicants to pass away from the sanctuary in an orderly manner by passages to the north and south of the choir. If this is not done, then the space between the fronts of the boys' desks should not be less than 10 feet. Such a provision would necessarily mean that the width of the choir cannot be less than 22 feet wide in all.

In arranging the seating space for the choir 20 inches in length will be required for each man and 16 inches for each boy.

Length necessary for men compared with boys.

Boys	1	2	3	4	5	6	7	8	9
Space . . .	1′ 2″	2′ 4″	3′ 6″	4′ 8″	5′ 10″	7′ 0″	8′ 2″	9′ 4″	10′ 6″

Men	1	2	3	4	5	6
Space . . .	1′ 8″	3′ 4″	5′ 0″	6′ 8″	8′ 4″	10′ 0″

So that a seat 5 feet 0 inches long seats 3 men or 4 boys.
" " 8 " 4 " " 5 " 7 "
" " 10 " 0 " " 6 " 8 "

The height of the seat above the floor for the boys need not be more than about 16 inches.

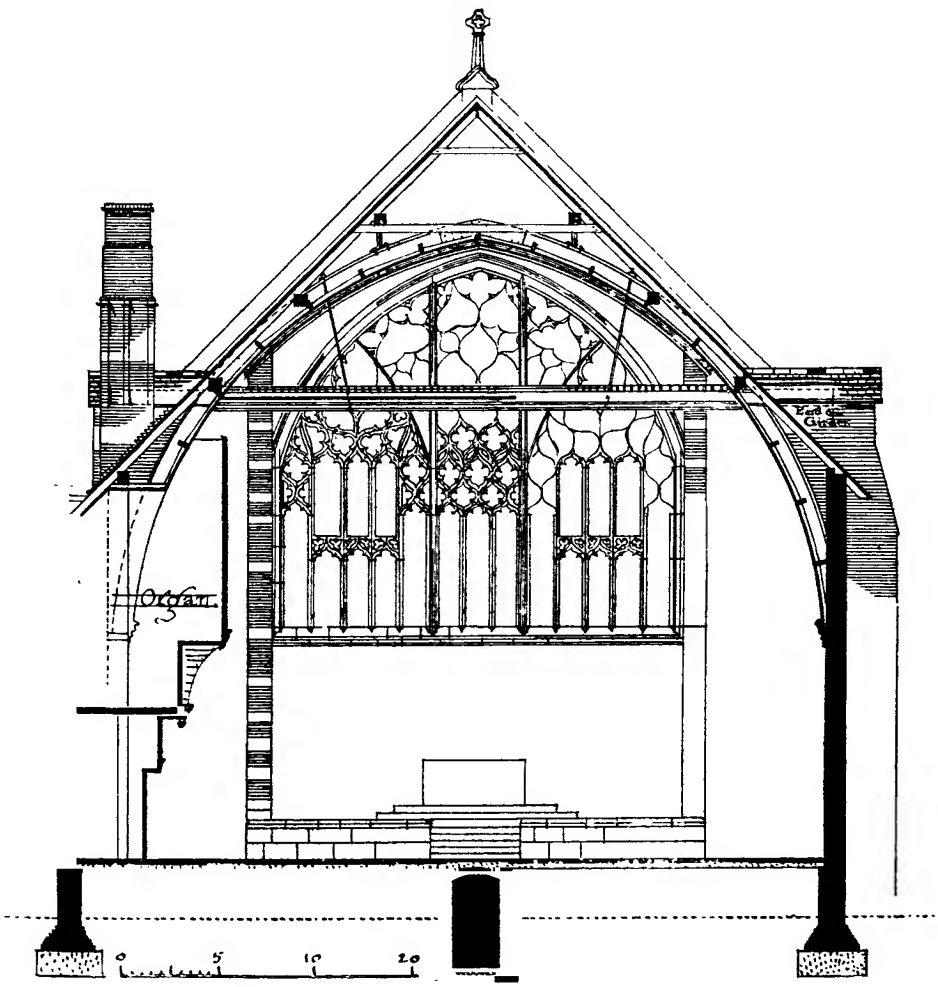
In following the present custom of placing the lay singers in the choir between the nave and the sanctuary, we are not by any means observing the early precedents that tradition and history present to us. It is an innovation. But as it has so largely been accepted architects must deal with it as well as they can; and one thing necessary will be to arrange that the benches and desks for the choristers shall not be too obtrusive. The long lines of them are valuable architecturally to lead the eye on to the altar. But it is well that they should not appear as a too prominent break between the nave and sanctuary. Perhaps the best way to avoid this is to keep them lower than they are sometimes designed. Not lower in the seats, but in the book-rests and bench-ends. In fact, the book-rests may with advantage be omitted altogether, especially in the case of the boys' desks. But in doing so some provision should be made by which the books required may be put away by each singer, so that they shall be easily available for use. The absence of a rest of any kind makes it necessary for the singers to hold up their books, and this allows them no excuse for lolling against the desks or for not holding up their heads so that their throats are free and open for proper vocal action.

It is usual to place the boys' seats upon the choir floor level, and those for the men one step of 4 inches or 6 inches above this. But such a step, though it may be useful for raising the men's seats, is really not at all a practical need and may be dispensed with entirely.

It will not do to forget that, in thinking out the details of the choir plan, a sufficient space will be required in which the lectern should stand. It may be within the confines of the

choir, or else close by in the eastern part of the nave. In the early days the Gospel and Epistle were read in the choir from the ambones provided on the north and south sides for that purpose.

If the choir is to be raised at all above the nave floor level, it will be best that all the steps should be collected together at the entrance to the choir from the central passage of the nave. It is not really necessary that the choir should be raised. But,



HARROW MISSION CHURCH, LATIMER ROAD, W.: CROSS-SECTION (MR. R. NORMAN SHAW, R.A., ARCHITECT.)

when it is lifted up, from one to three steps of 6 inches rise and 12 inches tread will be quite sufficient. Any more than this will be only an unnecessary indulgence of fancy at the cost of convenience, excepting always those cases where the levels of the site suggest that more steps can be introduced with practical advantage. There is one thought in particular connected with the choir steps that should be strictly adhered to, and this is that there ought to be no step between those at the entrance to the choir and that at the entrance to the sanctuary. If it should so happen that any must be used, for practical reasons, they should be grouped together, and none should be nearer the sanctuary step than fully 6 feet.

Otherwise persons stepping back from the altar rails, forgetting these steps, may have a fall. Those who are coming up to the sanctuary would thus, by these steps, be kept from crowding too closely upon others who have preceded them. The total number of steps from the nave floor level to the foot-pace need not exceed the customary seven or eight.

Of rood screens, or choir and other screens, it will be unnecessary to speak, since they are but a means of enclosing the choir and the sanctuary if the latter is not otherwise structurally inclosed. The choir screen with or without a rood above, occupies, as the name implies, a position at the entrance to the choir. The side screens are often very useful, and all may be very beautiful additions to the complete equipment of a church. But a low choir screen in line with the steps between the nave and the choir may, with advantage, be introduced, since it provides a decent finish to the choir. It may either be a low wall about 2 feet 6 inches high above the choir floor, or else be made of wood as a continuation of the bench-ends to the reading desks, or choir seats, or as return stalls for the clergy.

The musical needs of church planning introduce a topic which might easily serve for a separate Paper. For it is a large, interesting, and important subject. Let me be content to say only a few words concerning it. Under present conditions the subject means simply, where shall we place the organ in relation to the choir? Though why the organ should have usurped the privilege of helping in the service, to the almost general exclusion of other instruments, is a question outside the limit of my subject. But, accepting the organ, do not enclose it within a brick or stone box of building materials, even though you may make it an excuse for introducing a tower. The organ is not wanted as a "feature," as it is called, nor as an ornament, though it may be both. In the first instance it is in the church for practical reasons, and therefore it should be placed so that it can be used. The organist should be seated so that he may control the choir if necessary, and he should not be shut in with the instrument so that he can hear nothing but the noise of what he is playing. If he is only a little distance from it he will be able to hear it, and also the choir, properly. There is a matter concerning the organ which we are apt to forget, and this is that the organ should bear a distinct relation to the size of the building. In nearly all cases organs are much too large for the churches in which they are placed. The organ is required to lead the musical portion of the services, not to be almost a substitute for it. It is a means, not an end. An organ suitable in every respect for full concert performances is out of place in a church. For it should not be intended that people are to come to church in a search for music, but to worship. Good music there certainly should always be, but it is not the size of the organ that will make it so. Perhaps it is needless to remark that the organ will not remain in good condition unless it has been thoroughly protected from damp and from great variations of temperature.

In the nave the unit upon which the general dimensions, and the details of arrangement, will largely depend is the area that is to be allowed for each sitting. This will affect the width of the nave between the piers of an arcade or the confining walls north and south. It will also regulate the span of the arches in an arcade, since unless it does so some space may be wasted because the seating is interfered with by the piers. In dealing with this question of the seating there are some well-defined and generally accepted rules from which we need not depart. It has been found by long experience that for adults each should be allowed a space of 3 feet by 1 foot 8 inches. And it should be remembered that, excepting for the boys' seats in the choir, all the accommodation in the building is to be reckoned as for adults. So that in setting out the area for seating the congregation the simplest method is to allow three feet from back to back either of benches or chairs. It is true that where the area of a site is limited, and there is a fixed number to be accommodated, these sizes may be reduced

to 2 feet 10½ inches by 1 foot 8 inches. But such a reduction should only be adopted in cases of real necessity. The relative merits of chairs and benches is not part of my present subject,

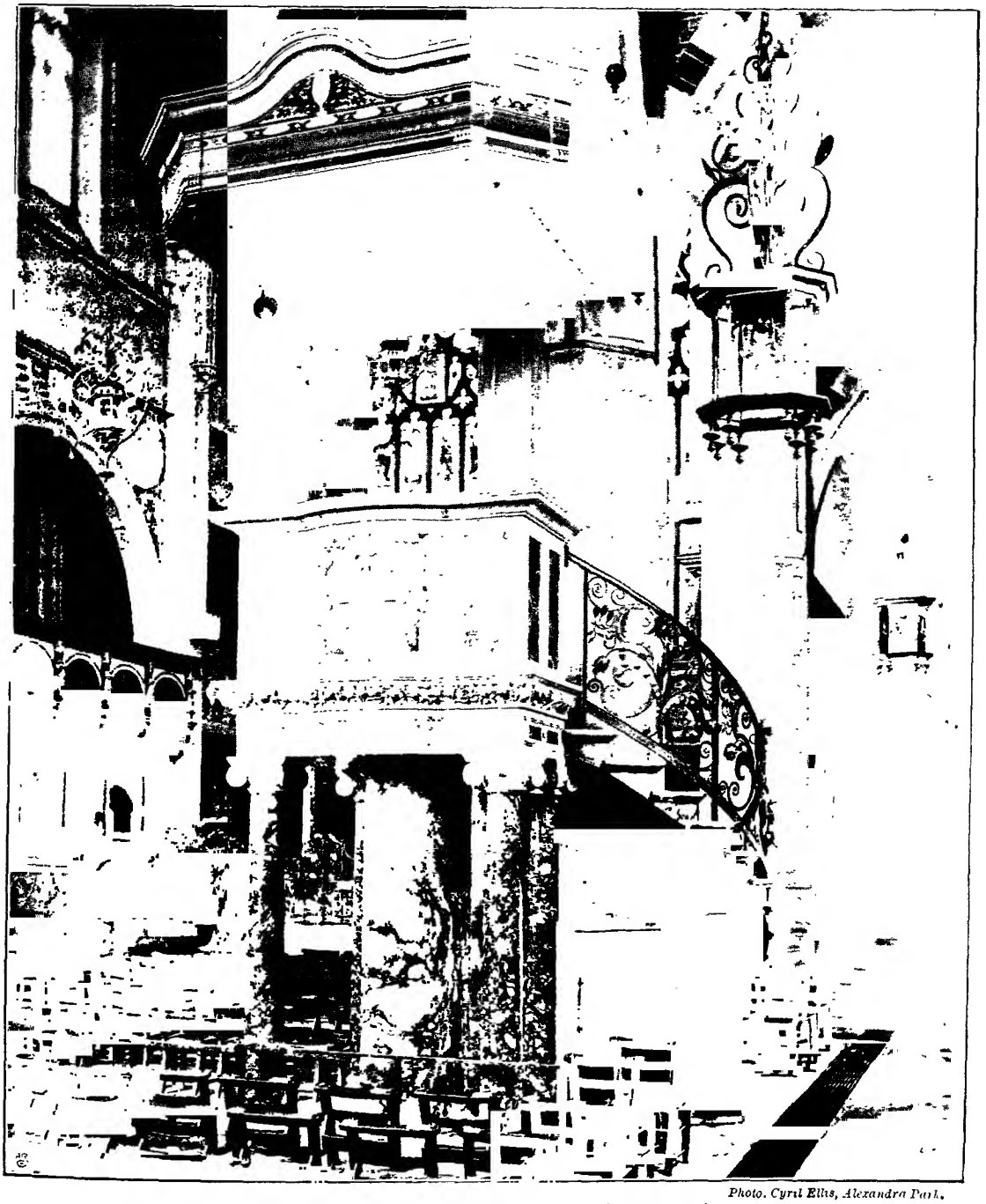


Photo. Cyril Ellis, Alexandra Park.

HOLY TRINITY, CHELSEA. (THE LATE J. D. SEDDING, ARCHITECT.)

so it may stand aside. It may be useful, though, to say that there are certain dimensions for the size and shape of either of these seats from which little variation is necessary. The

back of the seat need not be more than 2 feet 7 inches or 2 feet 8 inches from the floor. And this back, if it slopes at all, need not do so more than an inch from the vertical plane. For the seat itself 13 inches or 14 inches from the nose to the back is sufficient, and its height from the floor may be 17 inches in front and slope down to 16½ inches at the back. This will suggest a skeleton section upon which to build any design. Fixed kneeling boards, or mats which can be hung up to the seat-back when not in use, can be adopted as may seem best. The floor of the nave should be all one level transversely and without any step up where the seats are. But there is no reason why the nave should not be higher towards the west than the east in a long plan.

A difficult problem in church planning is how to dispose of hats, especially silk hats. From personal experience I incline to favour chairs as the best solution of the difficulty. For if the back legs of the chairs are well planned a convenient place for hats, well out of the way, is to be found between each chair. The hats can be shelved without fear upon the bottom rungs of the two chairs, or, better still, upon a flat piece of board screwed to the rungs to receive them. I have mentioned hats, and so must speak of the books, which, as a rule, are a cause of much untidiness in a church. To begin with, book-rests on the top of either the backs of chairs or benches are objectionable. They reduce the limited space in which persons must stand or move to and from their seats. They are a decided inconvenience to people when kneeling, and often become an excuse for not kneeling at all. But the books must be put away somewhere, and so why not at a lower level? It is not difficult to provide for this; for with chairs a separate batten may be screwed to each one near the level of the seat at the back. The ends of each pocket thus formed may be closed with a small triangular piece; but it will be better if the pocket is made an inch wide at the bottom and 2½ inches wide at the top: this will give enough room for any books that are likely to be required. If the bottom board is pierced at intervals any dust that may accumulate can be easily brushed out. The same contrivance will serve for benches, except that for these the pocket should be continuous, having a division bracket between the spaces allowed for each sitting. Every person would then have his or her own portion separately allotted. If the section of the benches to be used allows of it, the seat of each bench could be carried beyond the line of the back and a ledge formed. A fillet screwed to the edge of this ledge could be made so as to keep the books from slipping off.

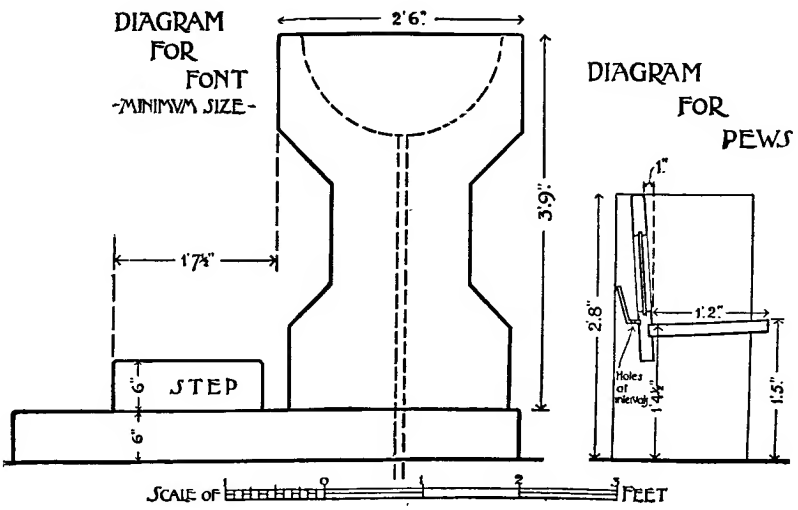
It is convenient to make tables of dimensions for seats, as they are always useful for reference, so as to avoid the need of adding 20 inches together in order to find the length of bench you want. But no more than twelve persons should be placed in one bench in a row, and all benches to hold more than six persons should be open at both ends. We thus have benches to seat—

1 person	.	1′	8″	5 persons	.	8′	4″	9 persons	.	15′ 0″
2 persons	.	3	4	6 „	.	10	0	10 „	.	16 8
3 „	.	5	0	7 „	.	11	8	11 „	.	18 4
4 „	.	6	8	8 „	.	13	4	12 „	.	20 0

Having some idea of the space that the seating must occupy attention will then be directed to the passages. In even a small church the central passage of the nave ought to be no less than 4 feet wide. But it is better to say it should be at least 5 feet or 6 feet. These are minimum dimensions, and the more you may increase them the better, provided that in doing so the seating capacity of the nave is not too much reduced. It is not necessary that the side passages be made as wide as that in the centre, since they will not be the avenues for so many people to use. Though this is so it will not be wise to allow less than 3 feet in width for them, however small the church may be. If these side passages are in aisles in

which there is seating other than that properly in the nave, it will be necessary to make them 4 feet wide. The cross passage between the seating in the nave and the western limit of the choir may be 4 feet across if it is not likely to be used extensively. In this, by the entrance to the choir, the litany desk usually stands. But if the choristers approach the entrance to the choir from the vestry by this passage it cannot well be less than 5 feet or 6 feet wide. Where any passages are not less than 6 feet 6 inches wide one row of chairs may be placed in them, and two rows when they are not less than 8 feet wide.

There is another part to be considered now which, ordinarily, is perhaps to be called a cross passage. I mean that at the west end of the church. But it is not enough to have a mere passage here. It should be regarded more as a narthex, or an internal western porch, than otherwise. And if it is well screened from the nave, even though only by curtains above the back of the last row of seats, there would surely be a distinct gain in the orderliness and quietness with which people could enter or leave the building. It need not afford an excuse to persons who would make it a place where they can indulge in private chatter before and after service. But it would help to prevent interruption, and might aid people to realise where they are, and suggest appropriate behaviour.



(From the Incorporated Church Building Society's "Requirements.")

Even if this space were no more than 8 feet or 10 feet wide, it would give sufficient room so that the font could be "set in the ancient usual place," near the public entrance to the church. In providing for the font it is desirable to put it on a small platform, not less than 6 inches above the floor, and there should be a further step on top of the platform for the ministrant to stand upon. This step is, however, unnecessary if the top of the font is not made too high. The font platform should stand at least 3 feet clear from the west wall. A better course still would be to have ample room all round it, or to place it in a separate baptistery. A pipe with a plug in the basin of the font will serve to carry off its contents into a dry well when the water is no longer required. No other drain is necessary, as the water is always allowed to percolate away into the surrounding earth. The size of the font may vary considerably, according to its design; but, as a rule, if its top edge is about 3 feet 9 inches to 4 feet 3 inches from the floor it is enough.

Like the reredos, the font has an interesting history. For we find its counterpart in the laver which was placed in the Outer Court of the Tabernacle. No doubt the fountain which was placed in the centre of the atrium attached to the early plans was derived from this earlier suggestion. Later, however, came the baptistery. Sometimes this was a separate building, or else a distinct chamber attached to the church near the principal entrance. Then this was dispensed with, and the font only remained in use.

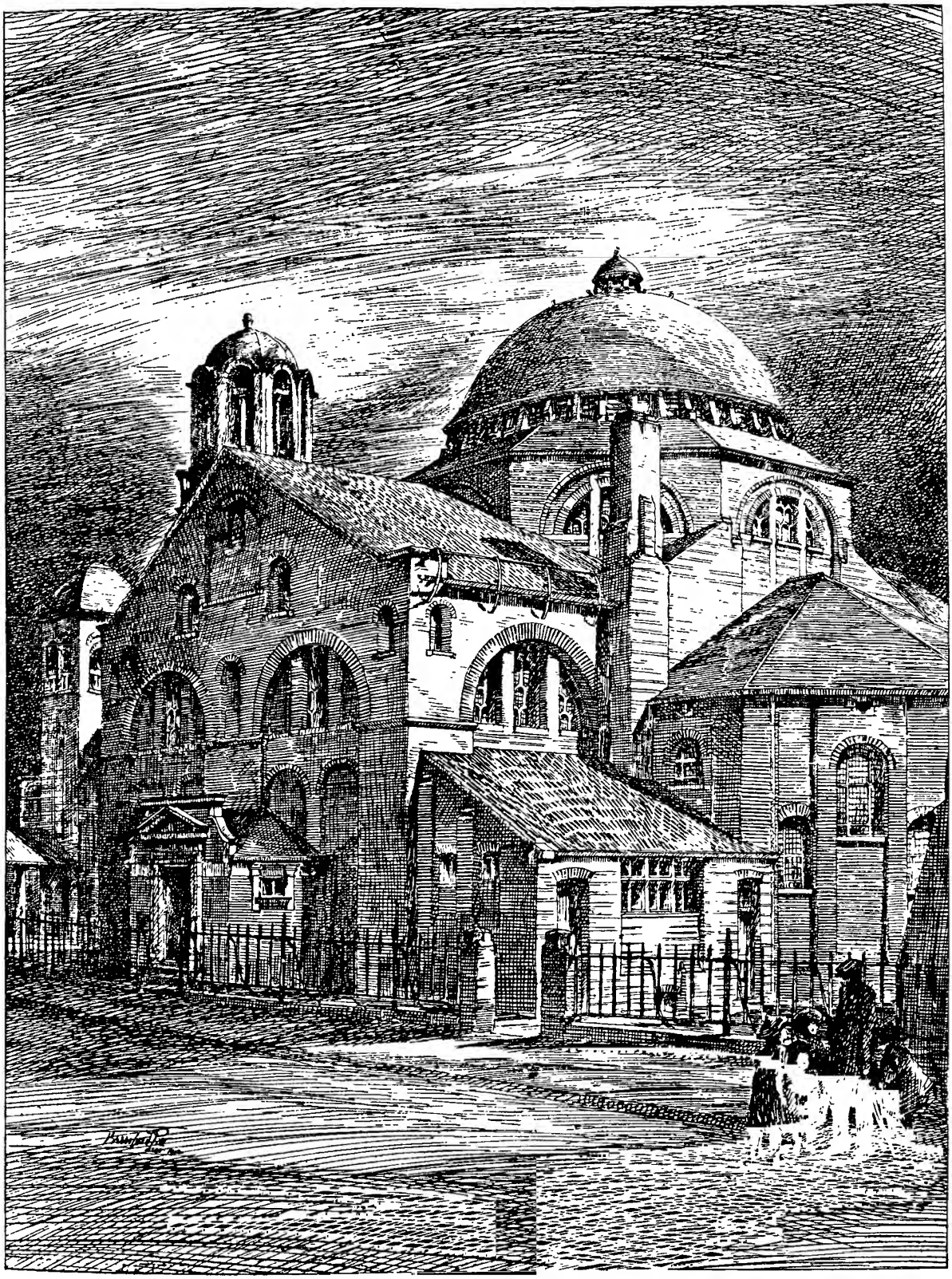
If ample space is allowed at the west end there will be room for not only ingress and

egress, but also for the placing of the font as an important essential of the plan. Such a space would avoid that cramped, crowded, mean effect that is produced by the provision of no more room than is enough to allow the congregation to squeeze in from the entrances to the passages. And it would also, perhaps, make it possible for architects to provide some convenient and inoffensive receptacle where umbrellas, sticks, and superfluous coats, wet or dry, might be deposited.

Other entrances may be provided according to convenience. As a rule additional doorways are better on the south side in this northern climate. But in any case the doors should open outwards for safety in the event of panic.

In allowing for the pulpit in the plan the first requisite is that it shall be so placed that the speaker may be heard well in any part of the building. It is, in England, usually found on the north side not far from the entrance to the choir. But in a large church it might, with advantage, be somewhere near the centre of the nave, on the north or south side close to the wall or arcade of the church. It is better, if possible, to arrange it so that the preacher may be seen by those who are to hear him. In this respect it differs from the altar. Wood is a warmer material for pulpits than stone. It lends itself well to the greatest variety in design; and if the pulpit has been placed in an unsatisfactory position, a wooden one may more easily be moved than one of stone. In addition to these considerations it should be remembered that a stone one, however simple, would cost much more than one of wood without any compensating gain in appearance or lasting value. It will be sufficient if the floor of the pulpit be raised no more than 3 feet above the nave level in a church of moderate dimensions. But it may often, with advantage, be higher than this, especially if it is to be used for speaking to a large congregation. In this case a sounding board above the pulpit is a useful addition. The steps up to the pulpit are better hidden behind it than shown too much. And in no case ought they to be awkwardly arranged. It will be equally inconvenient if the sides of the pulpit are either too low or too high. And if these are made no less than 2 feet 10 inches nor more than 3 feet 3 inches high the complaint of their being awkward boxes may not arise. As books, notes, or manuscript may be used, provision will be required for supporting these with ease and convenience. If the top of the sides is made so as to form a broad flat ledge it will be useful. But in addition a book-rest is often asked for, which, though sometimes useful, is nearly always unsightly. This, if movable, would allow men of different height to adjust it to a level that suited them. Though, if movable, it will not do unless it can be made quite firm when in use. If the pulpit is too large it is waste; if too small merely useless. So though 2 feet 9 inches may be a sufficient internal diameter or width to provide the required area, 3 feet is better. There is no need for a larger space than would be procured by making one 4 feet square. Since it need be neither round, nor square, nor a regular polygon in shape, 3 feet by 2 feet 6 inches makes a convenient size. I have never seen a glass of water knocked off a pulpit during a sermon. But a glass placed on the ledge close by the speaker always suggests that such an accident is possible. So if there is a shelf for it in a safe place within the pulpit it would be useful.

In nearly all well-equipped churches now built, it is necessary that a small side altar should be provided in a separate chapel. It is used principally for the small congregations which attend the week-day services, and need not be a distinct portion of the building set apart, entirely as it were, from the rest. But it is better that it should be separated by a screen from the body of the church. The small altar should be raised on a foot-pace. The sanctuary need not be raised, but it is better that it should be lifted up one step. If it is provided with a simple altar rail the space set aside for this purpose is not likely to be otherwise used by careless people. It will not matter whether the chapel is on the north or



CHRIST CHURCH, BRIXTON: PERSPECTIVE. (PROFESSOR BERESFORD PITE, ARCHITECT.)
(From a Drawing by Professor Pite.)

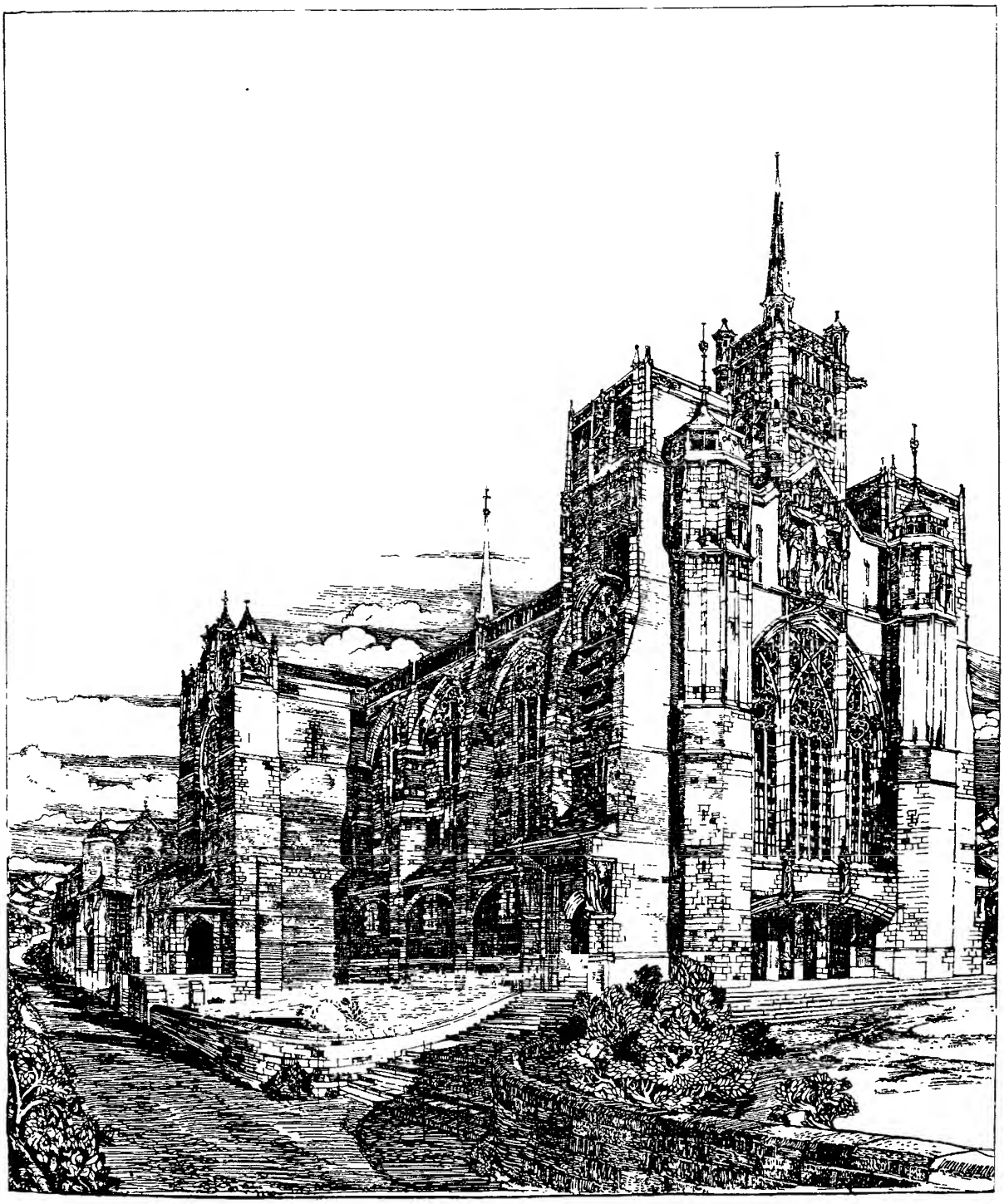
the south or east of the sanctuary provided it will accommodate the number of people by whom it may be used.

In providing the necessary vestries we must be guided entirely by circumstance. Generally two will suffice, one for the clergy and one for the choristers. They should be close together. And it is often convenient if the two may be thrown into one for the accommodation of any meeting, or classes, connected with the affairs of the church. A safe is necessary in or close to the priest's vestry; and an additional room for the verger is desirable for his work, for storage, and for keeping cleaning utensils. Lavatory accommodation is also frequently required.

The heating and ventilating of churches is a very important subject. This fact will have been impressed on any man who has had even the least experience. In fact, experience as an architect is not necessary. Churches are proverbially ill-ventilated. And when they are heated, as most are, they are often over-heated, or the apparatus is for some reason not efficient. And let me say at once, that the two things are too often ill-considered from the architectural point of view. For there is such an aspect from which so prosaic a subject must be approached. And it is not always the ill-advised Dean and Chapter, or Vicar and Churchwardens, who are to blame. Sometimes the iniquity may be laid to an architect's charge, though in these days we hope not often. But worst of all destroyers in this respect is the heating and ventilating expert who is let loose to wreak his will on a fabric unrestrained by any efficient control. I do not say that such a man does not do his work well from his own specialist attitude towards it. But he does too often fatally disfigure the building. Who does not know the cathedral or parish church which has been damaged by the hideous apparatus of stove and pipes, to say nothing of the effect of smoke fumes on the exterior!

There are many patent systems of heating paraded as perfect. But the thing generally resolves itself into the simple question, shall it be by pipes run in channels below the floor under gratings, alone, or shall it be combined with a use of radiators above the floor and runs of heating pipes at a higher level? Each building will need some special consideration of the manner in which it may be best treated. But, generally speaking, two, if not all three, of these ideas may be combined. And it needs no argument to support the contention that the architect designer of the whole work must control the installation and arrange for it. If not, the architecture he is concerned with as his final aim must suffer. It appears to be considered always necessary to have a run of pipes under gratings down the centre aisle. They look better if placed as a border down each side of the passage rather than in the middle. But it seems reasonable to suppose that a nave might be quite well warmed if plenty of radiating surface be provided near all entrances and along the external walls. The position in the walls north and south would no doubt be best if under the windows. This would help to reduce the chill coming from the glass above or from open windows. It may sometimes be possible to run pipes of small diameter along under windows at a high level, such as in a clerestory, though this may often be difficult for architectural reasons. In the case of an open roof—that is, one without any lower ceiling or vault—trouble in heating will occur for obvious reasons. It may no doubt be possible to contend with this by carrying similar small pipes along at, or near, the plate level.

A church is nearly always better lighted if the windows are kept high up in the walls. It is not necessary to have a clerestory to effect this. Artificial lighting is a more complex problem. The first thing is to avoid too little, and the next too much, light. Further, the points of light are best arranged so that the glare of them is, if possible, not seen from the west end. Brackets or pendants can be hung high, but not too high up, or fixed on the east side of the nave piers. A row of lights hung down the centre from the



DESIGN FOR PROPOSED CATHEDRAL, BRITISH COLUMBIA. (MR. H. WILSON, ARCHITECT.)
(From a Drawing by Mr. H. Wilson.)

roof, or standards at a low level, are most objectionable. For several reasons electric light in the nave is better than gas.

The question of drainage in church work is a simple matter easily dealt with, as generally the disposal of rain-water with one lavatory is all that need be provided for.

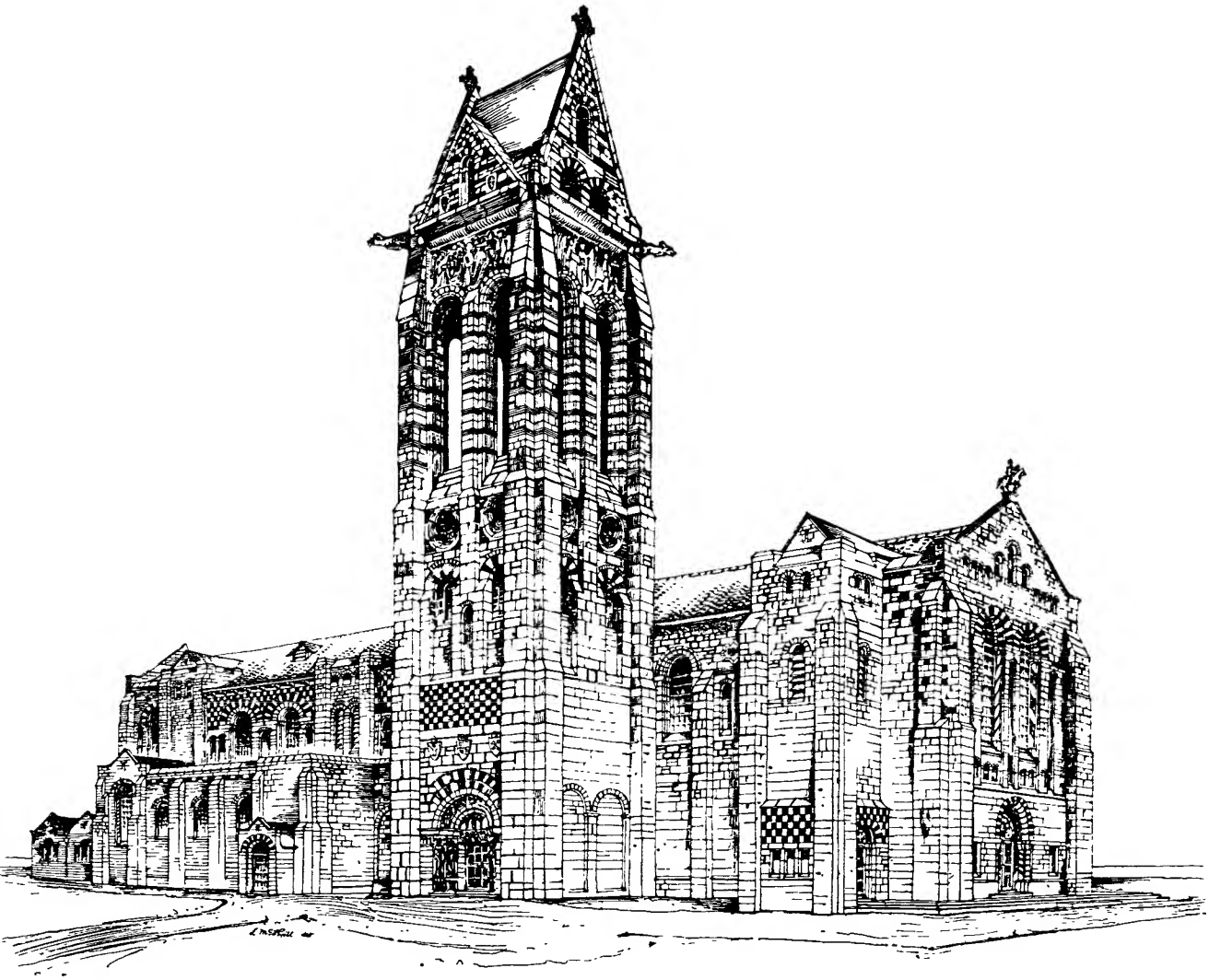
In nearly every instance before building can begin the plans must be approved by the Incorporated Church Building Society and the Ecclesiastical Commissioners, and copies of them deposited. And, further, the drawings must be submitted by the vicar or his representative to obtain the necessary "faculty," carrying with it the required permission to erect a new building, remove existing fixtures, or to place new ones in position. In the case of furniture, faculties are sometimes dispensed with. One legal point to be noted is that a new church may not be built in a "closed" churchyard without special parliamentary sanction. But if there is a church already in it the law allows you to pull down and rebuild half of it, and then proceed in the same way with the other half.

The cost of building churches is a subject that is always a matter of importance. In trying to arrive at an approximate estimate of the cost at so much per sitting or per foot cube, it is necessary to allow for the large amount of void space. This makes the basis of reckoning differ from that taken for buildings with many floors and rooms, and naturally the nature of the work must be considered. But cheap churches are possible provided simplicity in design is followed. The Church of St. Alban at Westcliff-on-Sea [see page 263] is a case in point. This cost 6*d.* per foot cube without the fittings and furniture, or 6½*d.* including these, *i.e.* the screen, altar, colour decoration on roofs, pulpit, dorsal, seating; and also lighting, heating, and drainage. This works out at £8 and £9 per sitting respectively. The small village church at Curbridge, near Oxford, cost 6¼*d.* per foot cube without fittings, or £6 per sitting; with fittings £7 per sitting; and the private chapel at Belclare, near Westport, co. Mayo, cost 6½*d.* per foot cube, or £16 per sitting exclusive of fittings and furniture, but £17 including these. That at Cockington, near Torquay, cost 8½*d.* per foot cube without fittings, and £12 per sitting; with fittings £13 per sitting. This last does not include stained glass, but it does include altar, seating, pulpit, font and cover, temporary hangings for the reredos, colour decoration on roofs, carved oak choir screen, marble paving to choir and sanctuary, altar rails, heating and drainage. None of these buildings were vaulted except Belclare, and that was covered with a plain pointed barrel vault of concrete. A small chapel seating seventy-eight persons was also built at St. Raphael, Var, France, for 8*d.* per foot cube, or £7 per sitting, including fittings, furniture, roof decoration, and reredos.

It should be understood that none of these dimensions, sizes, plans, or sections are put forward as fixed standards or ideas. It cannot be pretended that they embody what is the right thing for each particular case. They are suggestions of principle merely, notes of practice, hints which may be of value as elementary ideas to those who do not already know them. They are probably not even exactly what some of the men whose work and opinions we most respect would in all cases advocate. But they do, I think, represent in the main the conclusions of many who are familiar with the needs of modern church work. Certain ideas here advanced may be contrary to the usual practice and even principles of some. They will, however, serve some useful purpose if they stimulate thought and help to promote the study of design in relation to English church architecture.

Having now considered, as practical matters, the various things proposed for examination, let me dismiss particular details and notice more general questions. I have suggested that the various forms and furniture, and the disposition of the main parts found in use in a modern church, are not arbitrary customs or conventions. These forms, ceremonies, and rites are all necessary things. They have a meaning, a reason for their being, and a history.

They are formalities only when in the use of hypocrites, and they are neither based upon dead traditions nor the inventions of any real or supposed mediæval empiricism. At the same time, though they do not owe their continued existence and use to mere conservatism, we must not allow them to be lost through any desire for progress which is neither reformation nor restoration, but rather revolution. There are then evidently guiding principles in church



PROPOSED NEW PARISH CHURCH, EPSOM: ALTERNATIVE DESIGN (MESSRS. NICHOLSON & CORLETTE, ARCHITECTS)

(From a drawing by Mr. L. McD. Gill.)

planning and arrangement as there are sound principles in building which we must remember. The use of these may be as various as we please in their application to the detailed needs of particular instances. It is in the history of church building that we find the beginnings of things now accepted among us as useful traditions.

With the sanctuary, the choir, and the nave, and the position, arrangement, and use of each of these, an architect to-day must be more particularly familiar. He is seldom now

allowed to provide so fine an approach to his building as the atrium gave in the early basilican plans. In Sant' Ambrogio at Milan we may still see how fine a thing it was. But there is no reason why we may not sometimes have a large narthex in place of a meagre porch. The west front of Peterborough is an example of what use may be made of this architectural feature of the basilican plan once considered necessary in an ecclesiastical sense.

What we now know as the position of the sanctuary was originally the place where the presbytery was arranged. This was when the entrance to the church was at the east end, and the celebrant faced the congregation from the presbytery, or westward, side of the altar. These arrangements are now reversed, and the altar is usually placed at the east end, and the celebrant faces eastward with the people. But in most English churches the presbytery as a separate division of the plan has disappeared, and the priest or priests are seated in the chancel with the choir. If we still continued to follow that arrangement, already based upon accepted principles so early as the third and fourth centuries, our plans would be somewhat different. The sanctuary would doubtless be where we now have it, and the upper choir would be the place where the bishop and presbyters were seated; and the deacons, if there were any, would be in a lower choir. Both these parts would be comprised within a chancel—that is, a portion screened off or made distinct from, though connected with, the nave.

The lay clerks or singers could then be placed where it was most convenient they should be from a musical and congregational point of view. A transept or a singers' gallery near the chancel would be a useful position. Otherwise the gallery might be at the west end with the organ, as at Albi or Amiens, or even half-way down the nave, as at St. Anastasia in Verona. But these ideas are not such as would ordinarily be practicable in the services of the Church in England. They are not, however, necessarily Roman Catholic.

It is evident that the history of church planning in its elements begins with the Jewish Tabernacle as the original statement of principles. In the very early church plans we find, first, the atrium with its fountain, and the narthex; then the nave, with the chancel; and next the presbytery and sanctuary—generally speaking, three main divisions. In principle the Tabernacle and Temple arrangements were similar. In each Jewish case the entrance was at the eastern end. Most, if not all, of the earlier churches appear to have been entered in the same way—from the east. Again, as in the Tabernacle, so it was in the churches: there were divisions, screens, curtains hung on pillars, separating the several distinct parts of the plan.

These suggestions imply to me that it is important we should try to know and understand the principles underlying the traditional methods of church planning. These methods, taken with built as well as written history, are valuable, not only to the archæologist, but to an architect studying architecture. It was not caprice, but the needs of the original liturgical observances which dictated the plan arrangement of the early churches. And it was the constitution and organisation of the church which indicated the amount and nature of accommodation to be provided for. The late G. G. Scott, Jun., in his *Essay on the History of English Church Architecture*, says that a definite type of church arrangement had been adopted, and was already a tradition, by the time Constantine began to build. And Eusebius' description of the Church of the Holy Sepulchre, examined together with the plan of San Clemente at Rome, still existing, and that of the old basilica of St. Peter, will show generally what this type was.

In fact, it appears that long before Papal or monastic days the provision of accommodation for the clergy was very different from what afterwards became the custom. In all churches, except the chapels or mere oratories, provision was made for seating quite a body

or organised community of priests and deacons under a bishop. That this was so, even in the smaller buildings, is suggested by the case of Torcello. This is not surprising when we know that a see was the seat, the church, where the bishop was set with his college of presbyters, the local limit of his authority being the diocese. This district was the bishop's *parochia*, or parish, during the first three centuries—quite a small affair, which he could control and care for properly. A traditional variation of the basilican plan is retained in English cathedral arrangements. We still have the Bishop's throne and the stalls for the principal dignitaries, together with the canons, the college of presbyters.

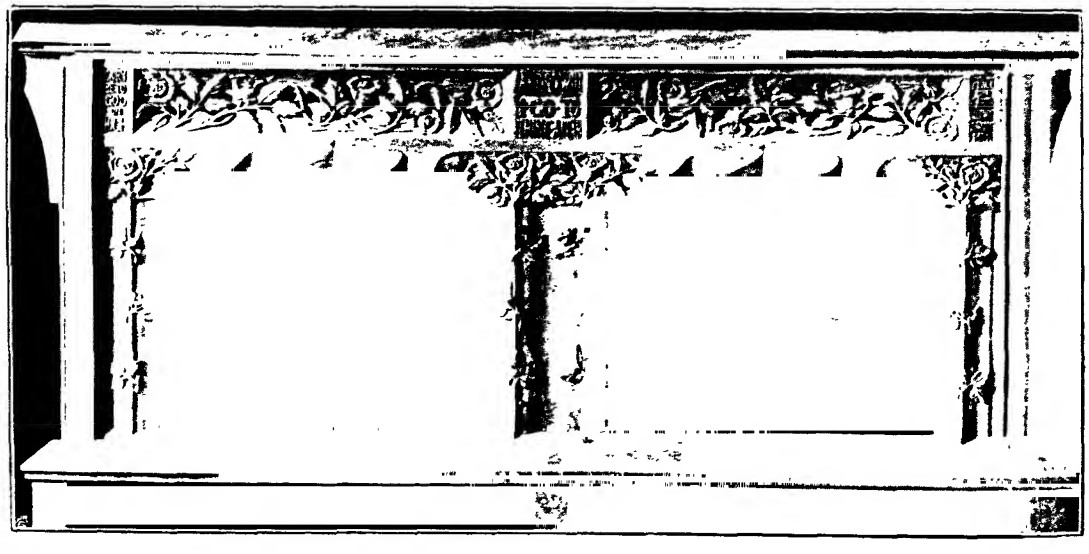
There is one distinction peculiar to English plans. And it is a feature to be found as already a strong, clear tradition, in early British and Irish plans, two centuries before Augustine came. I refer to the square-ended arrangement of the sanctuary. These were mere chapels, oratories, with a small recess at one end, a sanctuary for the altar. The traditions of Roman art doubtless suggested the apse form, so common in all plans derived from that source. The Roman Christians, following the Eagles, carried the tradition and the form with them to Britain. But whence came the distinctly British tradition? From the oratories in the Catacombs, from the clearly developed Syrian plans among which such a feature occurred, or from the square end of the Tabernacle? Perhaps we may never know exactly. But since we have something which is expressly our own, and peculiarly dignified, need we leave the course of native tradition, forgetting this? If, from the needs of plan and the problem of construction arising from these, another form seems desirable, we may accept it without excuse. But we may well keep our own traditional usage in the main. Similarly, if from our plan and the nature of its arrangement, and the supports it provides, a flat ceiling, or an open timber roof, a barrel or ribbed vault, or a dome be necessary as a structural growth, we use either naturally, with a lintel over our openings, or a round or pointed arch. We can look upon all of these as English by acceptance, by tradition. The dome, as it was used in Byzantine construction, we cannot claim as ours, except that Bentley has shown us how well it may be used. But we may say that the form of it, as used at St. Paul's, is ours, and admirable as a means of covering a large area. Where, however, any other domed form, internal or external, is that which will serve us best to build with, there seems no reason to neglect its use—no reason, at all events, merely on the ground that it is not traditional in English methods of construction. From whatever source derived, we may surely make it our own. To decline to do this is but to reject the sanction and the teaching of centuries of English receptiveness. It is no doubt true that we can get over the needs of construction without going so far afield. For in Ely we have been shown how to cover a great area with a wooden rib and vaulted system. And, if I may be permitted to refer to it, I think we had an instance shown us, in a recent design for a cathedral, how a greater area than that at Ely or St. Paul's could be spanned by a stone-ribbed vault on the lines of strictly Gothic and English tradition.

It is too much assumed that nothing will be suitable as a design for church work in England now unless it has the sanction of English tradition manifest in every feature and detail. Well and good up to a certain point. Let us reverence all that is so excellent in English traditional art. But have not certain types of design been made English by use? Have not some of the now essential elements of English architecture been derived first from the great parental stock, and then, by generations of designers, made ours by numberless experiments in the course of centuries?

It appears to be thought by some that it is "incorrect," as it is called, to mingle Eastern with Western ideas of construction as a foundation of architectural design. But the mediæval builders were hampered by no such absurd respect for the notion that it was iniquity to do

what had seldom, or never, been done before. Should we ever have seen those great vaulted naves of Spain and the South of France if the rule of precedent had always governed art? In the North of France great height was an ideal striven for in the treatment of a nave with a forest of piers in the aisles, or chevet, to get room on the floor. But to the South and in Spain the designers, though revelling in the same magnificence that height gave them, enclosed their whole floor area with one enormous vault. The grandeur of one large open space appealed to them in the clearer southern light, as the broken mysteries of numberless supports satisfied, in other ways, a northern imagination. But though few would question these as true expressions of Gothic ideals, what would some sticklers for custom say were it proposed to them to accept as Gothic building the design of the cathedral at Cahors, or of St. Front at Perigueux, or Angouleme Cathedral? These are all domed churches, but essentially Gothic. And because the domical experiment was not tried in England before the close of the fifteenth century, it is by some considered that we are to think ourselves for ever debarred from using it in a design coupled with more ordinary mediæval principles of construction.

These are general considerations derived, as I wish to think, from the subject under consideration. And though there is a very prevalent feeling in the minds of some who have much to do with building churches that the pointed arch, and that only with tracery and cusp, is English, it is sometimes necessary to remind these narrow amateurs who ridiculously talk of "pure" Early English, or "debased" Perpendicular, that for nearly two centuries the round arch, and no tracery, was essentially, if inevitably, a strong and beautiful element of our English Gothic art.



[illegible] ST. MATTHEW'S, LOCKINGTON. (MESSRS. NICHOLSON & CORLETTE, ARCHITECTS.)

DISCUSSION OF THE FOREGOING PAPERS.

Mr. Leonard Stokes, *Vice-President*, in the Chair.

Mr. G. H. FELLOWES PRYNNE [*F.*], who was called upon by the Chairman, said that, not having seen an advance copy of the Papers beforehand, he had found it rather hard to follow them in detail; but he was so entirely in sympathy with their whole tone and their whole line of thought that he had very little to say by way of criticism of them. Sir Charles Nicholson had mentioned his difficulties in reference to the clergy. All church architects laboured under such difficulties, and he thought the clergy themselves would be the first to acknowledge it. About the middle of last century—in 1849 and 1850, and just previously—there was a great wish upon the part of the clergy and students at Oxford and Cambridge to enter into the study of architecture, especially Gothic. That was, of course, at the beginning of the Gothic revival, when there was all the fire and enthusiasm of the early Gothicists, of whom it was rather the fashion now to speak slightingly. He thought, however, that there was not an architect in the profession who had not felt their influence, and who did not owe an immense debt of gratitude to those pioneers of a wonderful work of reformation with which the names of Rickman, Parker, Pugin, and others would always be associated. These pioneers had taught them to appreciate the good work of the past; and although they might not build now upon the strict lines of style favoured by the Gothicists, he thought they ought to feel towards these men a deep sense of gratitude for having started them in the direction they were now taking. Referring again to the clergy, it was a great treat to meet some of the elder men of the last generation, and to find with what earnest enthusiasm they entered into church architecture. It seemed utterly different now. Among many of the younger clergy of the present day there seemed an absolute ignorance of church architecture, regarded from an ecclesiastical point of view. Certain small matters of detail and of ritual they appreciated; but in studying these they seemed to have lost sight of the great principles, not only of our Gothic art, but of church architecture in general. He was glad to remark, however, that there were signs of improvement. Probably Sir Charles Nicholson and Mr. Corlette, with their large experience of church building, would have noticed that there was an increasing interest growing up amongst the clergy, and the more that could be fostered the better it would be for church work in the future. Church architects also had often very extraordinary committees to deal with. He remembered going up to Yorkshire to report to a committee, and having told them what he thought were all the nice points of his design, one of the committee said in broad Yorkshire dialect: "Gentlemen, we have heard what Mr. Prynne has said, and it is all very nice indeed; but how are we to know that there is no collusion between Mr. Prynne and the builder?" That certainly was a very practical question, and being a downright Southerner, with very little experience of Yorkshiremen, he felt puzzled for a moment how to answer it; but, recovering himself, he suggested pistols for two and coffee for one, and a settlement of the matter at once outside! The joke was appreciated, and that Yorkshireman, he should add, turned out his best friend throughout the building of the church. A committee was often chosen from a perfectly heterogeneous mass of the congregation—men who had no knowledge at all of building (perhaps those who had a knowledge were greater terrors than those who had not), and who seemed to be put on for the sake of obstruction. If the clergy could only grasp the fact that the smaller the committee the more likely they would be to get through their work, it would be happier for church building generally, and he spoke from a considerable experience of church building. Again, who with any knowledge of church work did not know the difficulties with faculties, and the difficulties with Chancellors? They were so mixed up in their opinions; their Courts were usually so unstable in giving their decisions that it was no wonder that many clergymen avoided applying for faculties. In Cornwall he was asked to design and put up rood screens in almost every church he had to do with, and faculties were granted. In London he was not allowed to put them up at all in one church, but was allowed to put up a complete screen and rood in another. In one church he was asked to take a rood down, and to put a screen round the chapel; but he was not allowed to put chancel gates before the high altar. The inconsistency and smallness of grasp in these matters was most irritating to anyone who had any artistic and church feeling in him. He quite agreed that in some ancient churches they had magnificent examples of what modern churches should be. What could be better than St. Michael's, Coventry, or those two great churches at Bury St. Edmunds for congregational purposes? Those two churches close to each other were simple specimens of what they very much desired in their great modern churches. Another point, they were always being pulled up because of the cost. They were asked to do churches at £10 a sitting, £8 a sitting, £6 a sitting. His candid opinion was that they could not

properly build a church under £12 a sitting if they were to take it on that miserable basis of sittings. Some people seemed to think that in church building they were doing something clever in pinning the architect down to a very small price indeed; but he had invariably found that before a church was completed, if there was any enthusiasm in the congregation at all, and if the design was not unnecessarily elaborate, if they eliminated the main features which went to form the composition of that design, they always regretted it afterwards. He emphasised very strongly that they should aim at height in their churches as much as possible. Much as they admired the beauty and simplicity of many of their country buildings, yet when they went abroad they found in places like Huy in Belgium, or Liseaux, and indeed all through Brittany and the southern part of France, such numerous country churches which elevated one by their splendid height and beautiful proportions. Mr. Corlette had given them an excellent summary of the main lines of how they should plan a church in the English Communion at the present day, and he should like to make one or two remarks by way of criticism. He thought the position of the screen was almost dictated by precedent: their churches marked definitely that the line of division between the nave and the altar was the chancel gates, and therefore that was the appropriate place for the screen. He quite saw Mr. Corlette's line of argument. At the same time they had to accept facts as they were, and he thought it would seem rather curious to see the rood screen in the position just at the sanctuary step. To his mind there was no better place than at the entrance of the chancel. With reference to the detail of the seven lamps, Mr. Corlette had mentioned their symbolical relationship with the seven candlesticks. That, he thought, was hardly the case. Their sanctuaries really took a symbolical line and symbolised more the heaven as described in the Revelation, and the seven lamps signified the seven spirits of God before the Throne. That was the poetic and symbolic idea of the seven lamps, and a very beautiful and devotional idea it was. The seating he would advise for the choir would be 21 instead of 20 inches for each person, because the choir had their surplices which required a little more room. As regards the rood, nothing added so much to the furniture, and detail, and beauty of a church, in his humble opinion, as the addition of that simple and most Christian emblem, the rood. He was rather amazed coming up in the train the other day, near Exmouth, when two people - apparently what one would describe as gentlemen—got in, and one of them remarked, "There is a church over there that has a rood—what the High Church party call a rood. Do you know the meaning of it? The reply was, "No, I do not. I suppose it is in reference to the sacred acre!" They all owed their thanks to Sir Charles Nicholson and Mr. Corlette for these admirable Papers, and it gave him great pleasure to move a very hearty vote of thanks to them.

Mr. H. HEATHCOTE STATHAM [*F.*], in seconding the motion, said there were one or two remarks from his own point of view that he should like to make. In reference to one point in Sir Charles Nicholson's Paper, he had been very much impressed with the idea that their town churches were too small. He liked, as Beresford Hope once remarked, "pure, unadulterated bigness," and it was one of the merits of Pugin that, though he did not get large areas, he had the passion for height. He remembered going into what looked from outside quite a small church of Pugin's—at Leeds, he thought—and when he went inside he was perfectly astonished: it looked twice as high as one expected. Pugin sacrificed almost everything for that, but he did produce a fine effect of height. He (Mr. Statham) also very much liked the wide narthex that they found in the Wren churches in London; it gave them a sort of sense of preparation before going into the body of the church. Wren, he supposed, would have called it a "vestibule"; but "narthex" sounded nicer. He was afraid Mr. Prynne would consider him rather a barbarian, but on the general principle of church planning he had long had an opinion that the mediæval plan was not the right plan for modern churches, and he did not quite sympathise with the idea that they were to take the protection of the altar as the main point. The main point of a church was not to shelter the congregation, but to uplift their souls, and it was the congregation they wanted to appeal to more than anything else—to produce a building which, when they went into it, would impress them with the feeling that they had got into something that took them quite away from the common associations of a building, and which had an uplifting effect. And if they considered that the congregation were a far more important element in modern churches than they were in mediæval churches, he could not help thinking that the true plan for a modern church was a wide central area. That was a very old idea with him, for when he was still a pupil he evolved a plan for what he called a twentieth-century church: its only interest for this meeting was that he sent it up to Dean Stanley for his opinion, and he got his opinion. This plan was a Greek cross with very shallow arms, with a dome over the centre, an apse at the eastern end, and the Communion-table on the chord of the apse. He supposed it would seem shocking to most people now, but Dean Stanley agreed with it. He said: "I rather like the position; it is in accordance, too, with the earliest Christian tradition," and he underlined the word "earliest." Would it not be worth thinking of, whether they should not go back to the earliest Christian

tradition? That idea did away with the long chancel and the choir in it. As a matter of fact, did they want the long chancel now for any reason except to put their choir in? If that was so, the chancel was of no use; for if they regarded the choir either as persons to sing an anthem for the congregation to listen to, or as singers to lead the congregation, they could not put them in a worse position than into that long chancel, with their sides to the congregation, and separated by such a great distance from them. Many years ago there was a Committee of Architects and Organists held, he believed, under the auspices of the Institute. He himself was a member of that Committee. They were appointed to settle what was the best position in which to put the choir and organ, and they came unanimously to the conclusion that the choir should be halfway down the nave, on each side, and the organ in the west gallery. No doubt that was the best position for the organ, musically speaking. The feeling was that the choir should be more in the middle of the congregation. If anyone wanted to know practically how that worked, they would hear it any Sunday morning during the legal term time in Lincoln's Inn Chapel. He wanted to say one word more upon a passage in Mr. Corlette's Paper which they would see printed, but which he left out in reading to save time. He (the speaker) was going to be a little musical, because it was a point of wisdom to speak of the thing one knew about. For thirty years he had been an amateur church organist, and he believed he knew all about church organs and their use in service that there was to be known. Mr. Corlette in the passage he left out made a suggestion with regard to the size of the organ; he said it must, at all events, be regulated by the size of the church. He (Mr. Statham) met constantly with the complaint that the organ was too large for the building. But it did not depend upon the size of the church so much as upon what they were going to do with the organ. It depended upon whether they were going to have congregational singing or not. If they were going to limit the singing to a performance by the choir for the people to listen to, then a small organ would do very well; but he did not think people would be content with that. One of the finest features in worshipping was the singing of a great chorale by the whole congregation. But the congregation really sang it in unison, and the harmony of the choir was entirely drowned; one had the barbarous effect of a tune shouted out in unison in the middle of the church, with no harmony and no bass to support it. It was for that reason one wanted a large organ—not a concert organ with a number of solo stops, but a large weighty organ with a heavy pedal. This, however, was scarcely ever found in an English church; one found instead a couple of booming stops on the pedal. In a German church there would be seven or eight or ten stops to the pedal, to support the congregation in that way. That was the reason why he considered a good large organ was wanted in a church, unless they meant to shut the mouth of the congregation and have only the choir singing. He wished to put that on record, because he had seen so much talk about the exaggerated size of the organ, and he thought it was often because architects did not really quite consider the musical reason for having an organ. If they were going to have congregational singing, they must have something that would furnish harmony and a bass to it, and only a large organ would do that. He wished to conclude by seconding the very hearty vote of thanks for both the Papers.

Mr. MAURICE B. ADAMS [*F.*] said that, in contributing his thanks for the Papers, he should like to add one or two remarks. He appreciated entirely the Churchman's point of view and general tone by which the Papers were distinguished; he therefore felt that they had done good service; but there were one or two little details which he was rather surprised Mr. Corlette had not alluded to, because he found that provision for them had been made in the admirable design for the fine church at Epsom which was hanging on the other side of the room, though they were items which very frequently were overlooked in building modern churches. One of these was the necessity for a return way for the communicants.* Nowadays it was happily the custom for a very large number of persons to assemble and communicate at the early services, and especially on festival occasions. In churches where there was only one entrance to the chancel it was extremely difficult to regulate the traffic to and fro with any degree of decorum; in fact, at some fashionable watering-places, such as Folkestone, it was most unseemly to see a number of people having to squeeze through the chancel gates and squeeze back again in the face of a concourse of persons anxiously waiting to approach the altar. Looking at that plan by Sir Charles Nicholson and Mr. Corlette for the church at Epsom, it would be seen that this difficulty was very carefully provided for, as it always should be. With regard to the position of the altar in juxtaposition with the reredos, he could hardly imagine anything more unseemly than to go into any church, either Roman or Anglican—for he had seen it in both—and to witness the sacristan standing on the altar in order to adjust the candles and other ornaments at the back of the altar. There should be a small space between to allow of this being done, though he had noticed in some churches of late that a staircase was arranged on the eastern side of the reredos, so that the sacristan

* A considerable portion of Mr. Corlette's Paper had to be skipped on Monday to get it into the time, and the point Mr. Adams refers to was one of the missed parts The return way for communicants will be found provided for in the Paper as printed.—Ed.

could get up and adjust the ornaments in front of the reredos without thus profaning the altar. It was a small detail, but it was a very essential one, and in very few churches was it provided for. With regard to what Mr. Statham had said, he appreciated entirely his remarks. Of course it altogether depended upon how one viewed the aims of a church. If it was a preaching place, with good, hearty, what is called congregational worship, then no doubt a big organ at the west end and a square sort of auditorium where everybody could see the pulpit were very desirable; but most churchpeople he thought would rather appreciate the view enunciated by Mr. Corlette with regard to the general arrangements of a church. He could not quite see—he was with Mr. Prynne there—the advantage of imposing upon the sacrarium a number of columns or shafts to support a screen in the way advocated by Mr. Corlette, because a clear space for the priests to move backwards and forwards readily in communicating the people was a most essential thing. But he had noticed recently that in some of the more "advanced" churches there was a tendency to do away with the choir round about the sanctuary in what was called the chancel, and to get them located at the west end. St. Michael's, Brighton, was a most remarkable church. The original church, built by Mr. Bodley, now formed only the aisle of an enormous church, built from the designs of Mr. Chapel, and there the choir at the High Celebration left the precincts of the sanctuary altogether, and, as a matter of ceremonial, passed to the western gallery, going up a staircase provided for that purpose: and there the musical service was conducted from that point of advantage. He had attended other churches in which this was done. Why, he did not entirely appreciate; but it had its musical advantages, no doubt. One thing about the narthex which had struck him, but which had not been mentioned, was the desirability of making it a higher level than the general body of the church. If one went into St. Martin's at Brighton, or the Fishermen's Church at the back of St. Paul's, where Mr. Carpenter, in order to get the height desired, went down very many steps—he should think the narthex was almost half way up the height of the walls of the nave—the effect was individually remarkable. But at St. Martin's and in many other churches, and in some old churches, it would be found that the western portion was slightly raised, and on entering one got immediately a very fine view of the church: this arrangement also had the advantage from the modern churchwarden's point of view, because when anybody came strolling into the church he would be in full view of the congregation, or the officers who had the congregation in charge, so to speak: thus loitering or anything of that kind was avoided, and the duty of immediate attention to give persons a seat was greatly assisted. He hoped these Papers would be illustrated by plans in the JOURNAL, because he was sure the references which had been made would be very much heightened in interest if they had a few diagram plans showing the particular arrangements referred to.

MR. EDWARD WARREN, F.S.A. [*F.*], said he should like to express his appreciation of the Papers of Sir Charles Nicholson and Mr. Corlette. It was his fault, and also his misfortune, not to arrive in time to hear the whole of Sir Charles Nicholson's Paper. He was much interested in them, but he wanted to say a word of criticism. Sir Charles Nicholson seemed, perhaps more definitely than some of us were disposed now to accept, to hold a brief for Gothic architecture. That impression might probably be due to the lateness of his (the speaker's) arrival. At any rate, he should willingly endorse and uphold the view that in the essence of Gothic architecture, its elasticities and adaptability to circumstances, and the lesson it taught of being able invariably to meet any reasonable requirements, he should be thoroughly in sympathy with Sir Charles Nicholson in advocating it. He thought that church planning did not as a problem present in essentials any difference from the planning of other buildings. They had to deal with a certain building for a certain purpose, and composed of definite materials, and in that respect the problem was akin to that of every building. It required, in fact, common sense, but, perhaps more than other buildings, it required also uncommon sense; it required a cultivated sense of dignified proportion, and the secrets of imposing effect, which might be partly derived, no doubt, from native intuition, but must be very largely the result of most careful observation and study. There were one or two further points he should like to notice. One was that he did not observe that the admirable plan which had been used by several modern architects, some living and some dead, and he believed by the gentleman who so distinguishedly occupied the Chair at the present moment, viz., the plan of passage aisles and a wide nave for a church, had been noticed by the lecturers. But aisles that were practically pierced archways through internal buttresses forming passages to seats afforded one of the most dignified and at the same time most utilitarian plans for modern churches that could be found. Mr. Street gave a good instance of it at All Saints', Clifton, and Messrs. Bodley and Garner at Pendlebury. Where Mr. Stokes had done it he did not exactly remember, but he had seen this plan in Spain, at Wesel in Germany, and at St. Dominic at Ghent, which last was burnt, he believed. There were a great many instances of it. He had no doubt that the use of it arose from the strong desire to get the great nave space which could be gained in that way. One saw in many mediæval churches which were not built on that plan an immensely wide nave, as at Gerona in Spain.

with no aisles whatever. A plan which had struck him as adaptable to the exigencies of a very short and wide site that he took note of was the Church of St. Thomas at Avila in Spain, where, as a sort of counterpoise effect to the height of the sanctuary, there was an immensely large choir gallery at the west end, so that the choir and the sanctuary were nearly on a level, while the intermediate space of the nave and chapels was very much below. It had an extremely fine and dignified effect. He thought Mr. Corlette was a little didactic in his rule as to spaces and dimensions. He did not agree with him when he said that the reredos should be somewhat wider than the altar. He did not see why it should be. The reredos in a small church was an integral part of the furnishing of the altar, and he did not see why, in modern use, as in most old plans, it should not be precisely the width of the length of the altar. But reredoses had been so intensely disputed that he would not say more except perhaps to cite a rather good definition of a reredos—that it was "a thing which invariably set people's backs up!" As another point, he thought there was an explanation for the commonness of the square east end in old English churches, which was in the fact that in England stone vaulting was relatively unusual; that the usual form of roof in an English church was a wooden roof; and that it was not so easy to cover a round or a semi-octagonal apse with a wooden roof with any grace as it was a square one. The type of English carpentry, which was naturally one of the boasts of this country, lent itself much more readily to a square end. He thought the fact that our churches were long and low, as opposed to the much more imposing height of Continental churches in most countries, probably arose from the fact that the parish churches copied the cathedral. In England since the Norman Conquest it had been the habit to combine the abbey and the cathedral in one church, so that a long nave was necessary for the people, and a long choir for the monks, and if they built a very long nave, unless they were enormously wealthy, they could not afford to build high. He fancied that was at the bottom of the very low type of English roof. In conclusion, he could only express his extreme admiration for these most interesting Papers.

THE CHAIRMAN, in putting the vote of thanks to the Meeting, said they had had two very excellent Papers. If he might say so—perhaps he ought not to say so—it struck him that the Papers were not quite so much on modern church planning as a review of ancient church planning. He rather agreed with Mr. Statham, and thought a good deal might be said in favour of the modern idea that the congregation should have a seat where they could see and hear. Mr. Prynne had spoken about the clergy. He would not say much about them, except that they were very excellent people, and that they had views, very distinct views, and he thought rightly, too. Speaking of his own little efforts, he had been told to build a church without a column in it, and he had to do it. On another occasion he was allowed to do a little more what he liked, and the criticism at the end was that there was enough material to build two churches! So one could not please everybody. But they might all take very much to heart what Sir Charles Nicholson had said about the endeavour to produce in a church really what they could only do in a cathedral. This reproduction of large features to a small scale was hopeless—was indeed suicidal to a lot of their work. Simplicity in church planning, as Sir Charles had said, was everything. One got a much more dignified effect by a few simple lines than by a redundance of parts and a confusion of features. Mr. Corlette referred to one matter that he (the speaker) had rather a hobby, about—viz., the east window. Mr. Corlette was a little half-hearted: he said it was not absolutely necessary, and might be used or it might not, or words to that effect. But in the next church they had to build, they might seriously consider the omission of the east window entirely. It was generally in the way; it dazzled one's eyes; unless the "deepest dyed" stained-glass window that Sir Charles had referred to was put into it, one could not see the altar; and the altar, after all, was the one thing, he supposed, that ought to be seen. Therefore the east window, although it might be a beautiful thing in itself, was, he thought, a beautiful thing out of place.

The vote of thanks having been carried by acclamation,

SIR CHARLES NICHOLSON, in acknowledgment, said that, with regard to Mr. Corlette and his screens, he thought Mr. Corlette had not been quite understood; his meaning was that there should be a good deep sanctuary when there was to be a sanctuary screen. As regards the seven lamps Mr. Prynne had spoken about, he would only make one remark. He went into a church the other day in Exeter—he would not say the name of the saint to whom it was dedicated—and he saw there seven lamps twinkling very prettily. He looked hard at them, and thought there must be something wrong. He was sorry to say they were electric lamps! About the question of Gothic, it all depended upon what they meant by Gothic; and on the question of passage aisles, of course they could make a very nice thing out of a passage aisle, but a passage-aisle church must be of a fair height to look well. [MR. WARREN: Certainly.] Something had been said about the narthex. There was a very good example indeed in Street's little church at Holmbury St. Mary, near Dorking: it was a delightful little narthex with an oak screen, and this screen had gates in it so that it could be shut off. The narthex was kept open on all week days so that people could go in there

without getting into the church, which, he thought, was rather a convenient arrangement.

MR. HUBERT C. CORLETTE in a brief reply said that he thoroughly agreed with the Chairman's remarks about the east window. Perhaps he had been a little half-hearted in condemning it. But if they omitted the east window they really wanted a very fine reredos, and they also wanted a good light, north and south, close by. It was certainly the fact that, with an east window, especially if they had not yet got stained glass in it, they could not see the altar at all. He thoroughly agreed with Dean Stanley that the earliest church arrangements might be carefully considered in regard to modern needs. He was also interested to hear Mr. Statham's point of view about the organ, and he should be glad to see it on record in the JOURNAL. As Mr. Statham had said, he had not read all his Paper because he had a certain feeling for the "congregation," as he might perhaps call it for that occasion; but many of the points referred to in the discussion were dealt with in the Paper, and would duly appear in the JOURNAL, together with a considerable number of plans and other illustrations, which he hoped they would find of use. He thought that few members of the Institute realised what they owed to a hard worker who lived in a little room full of papers where nobody ever went. He did not understand himself how their valuable JOURNAL came into existence until about ten days before, when he had visited the unknown sanctum of their Assistant Editor, and he wished to be allowed to take the opportunity of recording his appreciation of the courtesy and ability of Mr. Northover, which had become known to him during the preparation of the Papers and illustrations for the JOURNAL. Their Librarian, Mr. Dircks, had also very kindly assisted in preparing a short bibliography of the subject dealt with.

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9, CONDUIT STREET, LONDON, W., 23*rd Feb.* 1907.

CHRONICLE.

The late Arthur Maryon Watson [*A.*].

On the 9th February the hand of death removed one of the brilliant and more promising of the younger men from our ranks. Arthur Maryon Watson, whose loss creates a void in the membership and affairs of the Institute difficult to refill, was of that type of men who endear themselves to all with whom they may chance to come in contact. Always kind and genial, always interested in the welfare of others, whose manner and ideals, tempered by a constitution none too robust, were most attractive, his departure leaves us the poorer for a sincere friend, and our profession of an earnest personality. He was at all times a worker. His services upon committees and literary contributions to the JOURNAL, to the architectural Press, as well as to the more thoughtful of lay magazines, were valuable additions to the particular subjects under treatment. In this sphere of work he achieved distinction in gaining the Institute Essay Medal in 1901 by a treatise of considerable merit upon the "Formal or Irregular Treatment of Street Architecture." His executive work and lectures at the Architectural Association will not readily be forgotten by a wide circle of the younger men.

A somewhat retiring nature tended to hide his qualities and powers, and, it may be urged, provided that reason for the general absence of publicity of his actual building work from the mass of current illustration. But what is known to be his own production showed great care and thought, devoid of that undue haste which characterises much of present-day work.

He was associated in practice with his father, Thomas Henry Watson, one of the most kindly of our older members; and it is to him, prostrate with grief, in his great trial that the deepest sympathy of the Institute will find unanimous expression. Sadder and perhaps more terrible, the bereavement lies heavily upon his young wife, who but recently became his partner in life's joys and sorrows: to this lady our condolence is equally sincere. It is, although slight, a consolation to all who mourn for Arthur Maryon Watson to know that his labours and influence will live after him. W. A. FORSYTH.

16 *Great Marlborough Street, W.*

At the General Meeting of the Institute last Monday, the Hon. Secretary, Mr. Alexander Graham, F.S.A., in making formal announcement of the sad event, referred in feeling terms to the promising career brought to so premature a close, and gave expression to the sympathy felt by members for their esteemed Fellow, Mr. Thomas Henry Watson, in the irreparable loss of his only son, and for the young wife deprived of her husband within so brief a period of their union. The Institute also, continued Mr. Graham, had suffered the loss of a member who at all times since his election had taken an active part in its proceedings. He had served some years on the Literature Committee, and for a considerable time had acted as one of the Hon. Secretaries. It was sad, he said, to have to record the dropping-out from their ranks of a young man of such bright promise, and one who by the high level of his attainments and general culture would have materially furthered the objects and aims of the Institute. In conclusion, on the motion of Mr. Graham, the Meeting passed, *sub silentio*, a vote of sympathy and condolence with the bereaved family, and it was resolved that a message be sent to them incorporating the sense of the above remarks.

Mr. Watson was elected Associate of the Institute in 1899. He was a member of the Council of the Architectural Association, sometime student of the Royal Academy of Arts, First Silver Medallist R.A. 1897, Institute Medallist (Essays) 1901, Holder of the Certificate of competency from the Statutory Board of Examiners, and for four years Lecturer on the History of Architecture at the Architectural Association. He entered the office of his father as a pupil in 1892, visited Sicily in 1892, Lincoln in 1894, Winchester in 1897, Rome in 1899, Florence in 1900, and was afterwards for a time in the office of Sir Aston Webb. In May 1901 he became associated in partnership with his father.

The New County Hall Competition.

At the meeting of the London County Council last Tuesday the Establishments Committee reported as follows:—

With regard to the date for receiving designs of the new County Hall in the preliminary stage of the competition, it is anticipated that the conditions, plans, &c., will be all ready for issue to intending competitors by 27th February 1907.

The advertisement announcing the competition will appear in *The Times* of 27th February 1907 in the issue immediately prior to that date, of

certain English technical papers, and as early as practicable in the foreign technical papers, so as to enable the applications of intending competitors from the Continent to be dealt with by the time the particulars are ready. Taking 27th February 1907 as the date when the competition is publicly announced, the designs for the first stage should be delivered six months later, that is, by noon on 27th August 1907.

Reinstatement of Member.

It having come to the knowledge of the Council that, owing to a delay in the post, an instalment of subscription due from Mr. Herbert Barron Walters, who was declared to have ceased to be a member at the General Meeting of the 6th January, did not arrive until after that meeting had taken place, the Council have rescinded their declaration, and have reinstated Mr. Walters as an Associate of the Institute.

R.I.B.A. Colonial Examinations.

The report to hand from the Examiners states that two candidates presented themselves at the Examination held in Toronto in the month of November last, and that the following passed:—

REA: Kenneth Guscotte; of 515 New York Life Insurance Building, Montreal.

The Cost of some Old London Bridges.

In connection with the projected widening of Blackfriars Bridge at a cost of £200,000, which it is stated is to be defrayed out of the funds of the Bridge House Estate, the following notes, accidentally lighted on in the *Annual Register* for 1770, p. 176, will be interesting. The bridges referred to are, of course, the predecessors of the existing structures:—

It appears by the abstracts of the accounts, laid by the Blackfriars Bridge Committee before the Court of Aldermen, that the sum of £166,217 3s. 10½d. paid to the several artificers, in the bridge account, includes the sum of £5,830 for arching and filling up Fleet Ditch, and making the way from Fleet Street to the upper ground in the parish of Christ Church, Surrey; £5,000 for piling the foundation of the several piers; £400 for the three privies at the ends; and £2,167 for making, altering, and repairing the temporary bridge, which being deducted, the nett expence of the building the bridge is £152,840 3s. 10½d., and was compleated by Mr. Mylne in ten years and three quarters, from the time of his being employed by the city for that purpose, for which his salary for himself, as surveyor, architect, engineer, measurer, and his clerks, amounts to £3,762 10s.

It appears also by the said abstracts that the repairs of London Bridge amounted to £80,000, for which the architects and surveyor had five per cent on the artificers' bill and one per cent. of the purchases.

Westminster Bridge cost £218,810, and was eleven years and nine months in building, for which the Parliament granted for building and procuring the several conveniencies requisite thereto, from the year 1737 to 49 inclusive, the sum of £389,500, and the persons employed in the characters of architect, engineer, surveyor, and comptroller to the bridge and avenues received the sum of £10,731 10s. exclusive of gratuities to the inventors of centers, and of the several engines and machines used in the said work; all which business we find Mr. Mylne has done for £3,762 10s.

There has been, according to the above abstract, on the 22nd of last January, 70,000 loads of rubbish laid on the marsh grounds on the Surrey side of Black-friars Bridge, towards making the new roads from thence by the Magdalen Hospital to the turnpike, in order to give it a solidity before gravelling.

By the said abstract it also appears that the tolls received by the temporary bridge paid the expence of paying the interest money to the Watermen's Company for the Sunday ferry, and the charge of erecting, altering and watching it, and added to the building fund, the sum of £1,757.

**** Exigencies of space necessitate postponement of the fifth and concluding part of Mr. Fredk. R. Hiorns' "Modern Town-halls of France" to the issue of the 9th March.*

REVIEWS.

HOUSES AND GARDENS.

Houses and Gardens. By M. H. Baillie Scott. 4o. London, 1906. Price 31s. 6d. net. [George Newnes, Limited, Southampton Street, Strand.]

To those whose imperfect acquaintance of Mr. Baillie Scott's domestic work has been obtained through the medium of the illustrations in the architectural periodicals his recently published book *Houses and Gardens* will come as something of a revelation. Here we are afforded an explanation of those ideals upon which the principles governing his work are based; and for the reason that, while they are set forth with an almost convincing eloquence, and involve in their adoption an entire abandonment of traditional design, the task of the reviewer becomes a perplexing one.

In this work the author sees much in the typical modern villa to which, in common with less distinguished critics, he takes exception, and forthwith sets himself to inaugurate a reformation. His suggestions are often logical, and the manner of their introduction is modesty itself. Their general acceptance, however, is a matter of doubt, for the reason that in his condemnation he is inclined to overstate the case. To say, as Mr. Scott does, "that the modern house of the average citizen has reached a stage of degradation which might be a subject for ironic laughter if it were not for the pity of it," no acknowledgment is made of the immense improvement in house design which characterises the present generation. The technical journals week by week testify to the hopefulness of the outcome of this leavening process, and it is therefore a little disheartening to be told that there is "no town or village but is being gradually disfigured by this plague of modern building."

Such comments apply rather to the state of things which existed in the middle of the last century, from which we were subsequently rescued by such men as Eden Nesfield, and later by Norman Shaw. These were the real pioneers, and they have been followed by a score or more of younger men whose work has at last had its effect on the mighty apathy of an apparently pulseless public.

While it is undeniable that the degradation following in the wake of the Gothic revival showed itself in few respects more conspicuously than in the design and finish of the domestic house, it can hardly be said to have influenced in any considerable degree its plan. The gentle satire which Mr. Scott indulges in at the expense of the "mansion in miniature," as he describes the modern villa residence, is perhaps to some extent justified; but some such plan as embodies the principle of a series of apartments seems so firmly established a national aspiration, that it is unlikely to be radically changed.

The evolution of the house plan shows an ever-increasing insistence on privacy in the home, and, illogical as some of the types which express this root idea may be, it is a question whether a general reversion to the more primitive system of a common room, wherein are discharged most of the domestic functions, will displace it. It is not without difficulty that one supposes a family of moderate means content, for instance, that its several members should spend most of their leisure time in a however spacious "house-place," and in sight and hearing of each other pursue such distinct occupations as receiving visitors, dining, and playing the piano.

Whether, too, the master of the house and his friendly neighbour engaged on a Sunday afternoon in a quiet "50 up" in the billiard recess provided for the purpose are supposed to hurriedly hide their cues and simulate an appropriate dignity when the vicar's wife lifts the string-and-bobbin latch * and enters the central apartment is a point on which no light is thrown.

The mind of the Philistine conjures up many inconveniences of the kind in a house so planned, where the domestic habits of the occupiers are laid bare to the casual caller.

It has appeared to Mr. Scott that the social conditions of the agricultural labourer, who has to live in his kitchen, must in some measure be emulated by the more prosperous person who would impart to his house the external charm of its humbler prototype. Reformers are notoriously drastic, or perhaps it is that the contrast of their remedies with the conditions they seek to alter make them appear so.

One can, nevertheless, imagine it to be possible to build with grace and appropriateness without entirely ignoring the march of progress. The scornful references to the planing machine and the steam saw read strangely in these days. What else do the kinks in old mouldings, or the adze-marks on a ceiling beam reveal, but evidence of crude finish on the part of the old-time craftsman, in spite of honest attempts to attain perfection with primitive tools? Hence his unequal setting-out of joists, his waney story-posts, and his inability to level a table-top are inherent defects, and the advocacy of their reproduction nowadays is retrograde. On page 187 is a photographic reproduction of a view in the dining-room of Bexton Croft, in which is shown a heavy ceiling beam which is neither square in section nor sound in condition. It is split and gnarled from end to end, and incidentally has its bearing on the lintel of what looks like a square opening for a ventilator. To incorporate such material in new work is deliberate and inexcusable affectation.

Stonehenge and the bone needle are types of early human skill, but a due consciousness of their entire fitness for the age which produced them is no reason for blowing up St. Paul's or shutting down the lace factories of Nottingham, which are respectively, one may say, their lineal descendants.

Among the houses illustrated in this book there are a few which in their planning conform more or less closely to the accepted types. For the rest the leading principle has been the central apartment or "house-place," with its several recesses opening out of it. Architecturally, the interiors are strongly suggestive of the hay-loft and the tithe-barn—charming, undoubtedly, from the æsthetic standpoint, but expressive of a somewhat unusual taste.

The chapter on gardens is interesting and well written, and, in revealing the wide experience of the author, emphasises his conviction that the intimate relations of the garden and the house should ever be borne in mind.

A reference to churches calls for comment. Mr. Scott points to our cathedrals and parish churches as evidences of the depth of the Gothic devotional spirit. This is true enough in a number of instances; but in enlarging on the singleness of purpose evinced by our forefathers it is well to bear in mind that scamped work is not entirely a feature of modern building. There was, we may assume, a sad falling from grace on the part of the men who built the piers of Seville Cathedral, one of which, on its collapse some years ago, was proved to consist of a skin of ashlar filled with dry rubbish! And in condemning the "modern churchman" for restoring our churches with so little knowledge, it is only fair to point out that, however misguidedly he sets about it, he is at

* Such an arrangement is shown on a pair of folding doors (as nearly like cow-house doors as they can be made) on page 145, notwithstanding evidence, in the shape of a tiger's skin rug and a costly looking barometer, of the owner's comfortable circumstances.

least entitled to credit for the veneration which prompts him to restore them to their former state. The church builders of the Middle Ages were ruthless in their destruction of work which in their day was but a generation or two old. In their eyes it was obsolete, and had to make way for the new or "modern" style. This shows the constancy of the law that evolution and progress are inexorable. It has been left to us—the degenerates and commercially minded—to preserve and venerate the monuments of a bygone age; and to cite the Norman and Edwardian castles as embodying merely the spirit of ancient chivalry is to forget that the age of the tournament was also that of the cruel dungeon. To see no good in our own times, and insist on every virtue in those of the past, is to view the matter from one point only. The glamour of things ancient is indeed the dominant note in Mr. Scott's book, which is, nevertheless, a thoughtful contribution to architectural literature. It has the additional interest of being the work of an enthusiast, a mystic, and a scholar.

The publishers might—by way of a graceful concession to utilitarianism—cut the edges of the leaves in the future editions which will doubtless be called for.

FREDK. CHATTERTON.

MINUTES. VIII.

At the Seventh General Meeting (Ordinary) of the Session 1906-07, held Monday, 18th February 1907, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair, 125 Members (including members of the Council, Fellows, Associates, and Hon. Associates), and numerous visitors, the Minutes of the Meeting held Monday, 4th February 1907 [p. 232] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the Chairman—viz. Henry William Finch [*F.*], Septimus Warwick [*A.*], Fredrick George Stockdale [*A.*], and Harold Franklyne Murrell [*A.*].

The Hon. Secretary announced the decease of the following members—viz., William Angelo Waddington, *Associate* 1882, *Fellow* 1903; William Alfred Large, *Fellow* 1904, Sidney Fowler, *Associate* 1882.

The Hon. Secretary further announced the decease of Arthur Maryon Watson [*A.*], only son of Mr. Thomas Henry Watson [*F.*]; and having referred to the promising career and high attainments of the deceased member, and to the active part he had taken in the Institute affairs, the Hon. Secretary moved, and it was resolved, that the regrets of the Institute be recorded on the Minutes, and that a message of sympathy and condolence be sent to the bereaved family.

Papers on MODERN CHURCH BUILDING, by Sir Charles A. Nicholson, Bart. [*F.*], and Hubert C. Corlette [*F.*], having been read and illustrated by the authors, a discussion ensued, and a vote of thanks for the Papers was passed by acclamation.

The proceedings then closed and the Meeting separated at 10.15 p.m.

THE AMERICAN INSTITUTE JUBILEE CELEBRATIONS.

The R.I.B.A. Delegate's Report.

The following is the Report of Sir Aston Webb, R.A., who was present at Washington as Delegate of the R.I.B.A. on the occasion of the Jubilee celebrations of the American Institute of Architects:—

19 *Queen Anne's Gate, Westminster, London, S.W.:*
13th February 1907.

DEAR MR. PRESIDENT,—I beg to report that as Delegate of the Royal Institute of British Architects I attended the recent Convention of the American Institute of Architects held at Washington, and that on the 9th January I had the honour to read at a Meeting, held for the purpose, the Address of Congratulation from our Institute to the American Institute on the Fiftieth Anniversary of its Foundation [*see* JOURNAL, 26th January].

At the same time similar Addresses were read from Harvard University, the University of Pennsylvania, the Columbia University, the Société Centrale des Architectes Français, Società degli Ingegneri ed Architetti Italiani, Maatschappy tot Bevordering der Bouwkunst, the Société Centrale des Architectes de Belgique, the Hellenic Polytechnical Society of Athens, the Massachusetts Institute of Technology, Cornell University, the American Society of Civil Engineers, the National Academy of Sciences, the National Academy of Design and Society of American Artists, the Province of Quebec Society of Architects, the Ontario Society of Architects, the National Sculpture Society, the National Society of Mural Painters, the George Washington University, Syracuse University, the Archæological Institute of America, the Society of Beaux-Arts Architects, and the Architectural League of America.

The Address of Congratulation from our Institute was, like the others, individually acknowledged by the President.

After the presentation an adjournment was made to the Octagon House, a charming building, the freehold of which has been acquired by the American Institute for its permanent abode and as a lasting memorial of its Jubilee. It was designed by William Thornton, the successful competitor for the United States Capitol, and erected 1798–1800. After the year 1814 President James Madison occupied the Octagon, and during his occupancy the Treaty of Ghent was signed which closed the second war with England. Views of this interesting building will, I hope, shortly appear in the JOURNAL. The American Institute are to be warmly congratulated on its acquisition, and I should have liked to think that our Institute had been equally fortunate in obtaining a house of its own.

At the Octagon a tablet was unveiled by Mr. J. S. Peabody, a former President, in honour of

the founders of the American Institute whose names are recorded on the tablet, and I again had the honour to represent the Institute at the reception which was subsequently held.

On the occasion of the Medal presentation the previous evening, 8th January, at the Corcoran Art Galleries, I had the pleasure to announce the receipt of the cable from Mr. Locke informing the American Institute of the election, as Honorary Corresponding Members of our Institute, of the President (Mr. Frank Miles Day), Mr. Cass Gilbert, and Mr. G. B. Post, all of whom were present, and this announcement was, I think, much appreciated.

At the banquet on the evening of the 9th, Mr. Root, the Secretary of State, Mr. Taft, Secretary of War, Mr. Senator Lodge, and many other distinguished guests were present. The President of the American Institute proposed the health of the Royal Institute of British Architects, to which I responded as your Delegate.

During my stay at Washington I also lunched with the President and Mrs. Roosevelt, and at New York I was entertained by the New York Chapter of the Institute.

Wherever I went the greatest interest and goodwill was shown towards our Institute, and I found everywhere a keen recollection of the welcome accorded to American architects on the occasion of the International Congress in London last summer.—I am, yours very truly,

ASTON WEBB.

T. E. Collcutt, Esq., President R.I.B.A.

The American Presentation to Sir Aston Webb, R.A.

Mr. H. V. LANCHESTER [*F.*], who was present at Washington, and attended most of the functions of the American Convention, has kindly supplemented Sir Aston Webb's Report by the following note with reference to the Presentation of the American Gold Medal to Sir Aston Webb :—

"As it was my good fortune to take part in the Convention at Washington I am glad to have this opportunity of adding to Sir Aston Webb's official report a few lines to endeavour to convey the enthusiasm with which our distinguished colleague was received, and the evident movement towards an identification of ideals in the two great Anglo-Saxon nations that his visit and remarks did much to foster. Circumstances have certainly developed very different methods on the other side of the Atlantic, and while these differences are obvious, it was left for Sir Aston Webb in his speech on 8th January, and on numerous other occasions, to emphasise the fact that under the differences lay the same root-principles.

"The reception of such expressions and the enthusiastic acceptation of any views bearing on the unity of aim in the two nations made it clear that the bonds between the members of the profession on both sides of the Atlantic were being greatly strengthened, and that the mutual intercourse resulting could not fail to be to the advantage of all."

Some brief notes of the Presentation to Sir Aston Webb appeared in the JOURNAL for 26th January, and we are now able to supplement these from the fuller details since available. The presentation took place at the Corcoran Art Gallery. An American reporter describes the scene as being as brilliant in its attendance of ladies as it was distinguished in that of architects and notables of national celebrity. The function was held in the main hall of the gallery, at the foot of the main staircase, at the top of which, separated by a statue, were the British and American flags. Here were grouped Mr. Frank Miles Day, the President; W. B. Mundie, First Vice-President, and other of the officers; and on their right Sir Aston Webb, accompanied by Mr. Esmé Howard, Chargé d'Affaires of the British Legation. In front of this group were seated the most brilliant assemblage of ladies that had ever graced a function of the Institute, while behind and around, to the remote corners of the gallery, stood architects and guests who had come to do honour to the distinguished English architect, the groups interspersed with ladies, "who," to quote our American reporter, "preferred standing with their escorts, and vied with the statues in receiving the critical and appreciative attention of the assembled artists."

The following is the text of the Address delivered by the President before the presentation :—

Sir Aston Webb, Members of the American Institute of Architects, Ladies, and Gentlemen,—The American Institute of Architects establishes upon this, the fiftieth anniversary of its foundation, a Medal, the intention of which is to mark distinguished achievement in architecture wherever found. To you, Sir Aston Webb, it will be our privilege to-night to give this Medal, and we are gathered here to signalise, not merely by that token, but by our presence, the admiration that we feel for your works, and the respect that we entertain for your career.

That this Medal should first be given to an Englishman needs little explanation. A reasonable modesty might well constrain us to look beyond our own borders, and it is but natural that our thoughts should centre on that land with which, more than with any other, we are united by ties of race and thought. We cannot escape from our indebtedness to that land, for of how large an import are the institutions that came to us from it! The principles of our liberty, civil and religious; the foundation of our laws; our speech itself—all these and countless other gifts reach us from forefathers who were both yours and ours. But all this, full of meaning as it is, would be little pertinent to-night were it not that, among those gifts, our early settlers brought the

wholesome tradition of your native art of building; and as each wave of immigration reached our shores from yours, it brought with it a larger knowledge of that art and a stronger impulse to build wisely and well. How fully we learned our lesson you would see, Sir, could you but visit such widely separated places as Newport, Annapolis, and Charleston, or could you follow the windings of the river James. You would find "Westover," "Homewood," or a dozen other mansions as convincing in their quiet dignity as "Raynham Hall" or "Groombridge Place"; and churches, town-halls, state-houses expressing in the same admirable fashion the aspirations and the limitations of life in those early days.

And just as we then received from you the traditions of Inigo Jones and Sir Christopher Wren, traditions that gave vitality and character to our colonial buildings, so at a later time the Classical revival that swept over Europe reached us directly from its English source. William Thornton, who designed "The Octagon," he who stamped a definite and noble character upon the nation's Capitol—Thornton, no less than his patron Thomas Jefferson, gained his knowledge of Classic architecture from those studies of it in which your countrymen were pioneers.

But if in those days we saw our Classic art through British eyes, I fear that to-day, with ready access to the architecture of the world and with a leaven of men among us trained in foreign schools, we might forget an indebtedness of centuries were it not that we are irresistibly drawn to your island by the splendid fabrics that adorn it, from Cornwall to Caithness. For, Sir, all that is best in your art is ours, if we have but the skill to make it so. Majestic Durham, high above the river Wear; the tree-embowered Haddon, with its terraces and stately gardens; the very Abbey by the Thames itself—innumerable treasures of a thousand years—all these are ours, if we but read them right.

But we have not failed to recognise that, glorious as is the past of your art in England, its present is full of vigour and charm. For many years this Institution has elected to honorary membership Englishmen, the mere mention of whose names calls up the vision of many a noble edifice and many a service to the cause of Art. To name only the dead, Sir Charles Barry, Scott, Penrose, Street, Cockerell, Burges, Ruskin. But among the living, how many are there whose names are dear to us, with whom you have the privilege of an intimate friendship—Ernest George, Phené Spiers, John Belcher, the venerable Norman Shaw, whose laurels are yet green; Bodley, whose perennial youth justifies him in Washington commencing even a cathedral.

It is from among men such as these that we have chosen you, Sir, a younger but no less distinguished man, to confer upon you an honour which we shall perhaps not frequently award; and therefore, and because an ancient custom sanctions it, I am to recount in good set terms the reasons that have moved us to choose you as our Medallist.

Matthew Arnold's dictum, that not only is *good* work needed to put a poet in a secure place, but a *great body* of good work, is no less true of other arts than it is of poetry. On the score of amplitude, your achievement lacks nothing, for no architect in England, save Sir Christopher himself, has been entrusted with the conduct of so many and such vast works. Whether they be houses, churches, courts-of-law, schools, museums, colleges, Government offices, or universities, I can name not a tithe of them. Yet, perforce, I must speak of some of them, and of these I name first the Victoria Courts, in Birmingham, the model of many similar buildings, and next the new buildings for Christ's Hospital, one of the largest groups of school buildings in the world, yet clearly conceived and treated with a charm that cannot fail to leave an imperishable imprint on the lives of its students. But these were years ago. Just now, in the metropolis itself, you bring to completion the great buildings of the Royal College of Science, no less admirable for the way in which they solve a difficult technical problem than for that in which, without losing their individuality, they have been brought into harmony with a structure utterly different in purpose and conception, their opposite neighbour, the Imperial Institute.

Did time serve I should wish to say more than a word upon those vast additions to the Victoria and Albert Museum, South Kensington, upon which you have been engaged these fifteen years, and in which we may hope shortly to see installed the noble collections which they are intended to shelter and to dignify.

Through your hands also the British nation is giving to the world an example of municipal improvement upon a vast scale, and under circumstances the most fortunate. I mean the treatment of the grounds about the National Monument to Queen Victoria in front of Buckingham Palace, and the planning of the Mall and the "Processional Way" leading from the monument to Charing Cross. Although progress with an undertaking of this size is necessarily slow, yet perhaps you will have it finished before we, in our capital city, have brought back to its original simplicity the much perverted plan of L'Enfant and of Washington.

Not the less interesting, because it deals, in a prosaic age, with the world's most splendid spectacle, is the arrangement upon which you are now at work for the site of the "Durbars" at Delhi.

Of these and many others of your works all may to-morrow gain an idea from the collection of illustrations of them which are hung in the Institute's house, the Octagon.

But in the midst of these large affairs you have not neglected to perform a labour of love in the

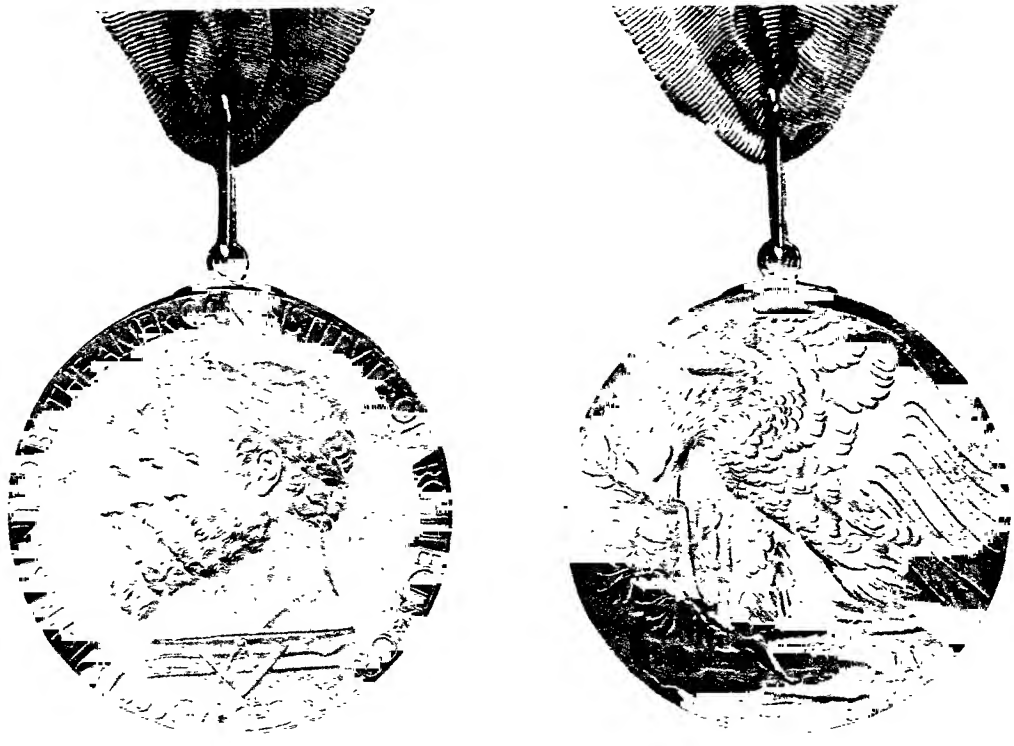
restoration of ancient edifices; as at the fine old Norman church of St. Bartholomew the Great, the oldest church in London, which for well nigh thirty years has been within your charge, and which you have rescued from neglect and ruin and wisely rehabilitated.

Nor have you ever failed to discharge those burdensome duties which every leader owes to the rank and file of his profession. On how many committees, in how many offices, you have advanced their interests it boots not to say. From among these let me note only the Presidency of the Royal Institute of British Architects, that Institute that we are proud to regard as the model and prototype of our own; and the Chairmanship of the Board of Architectural Education that is so successfully unifying and improving the training of architects in the United Kingdom.

That your talents have not been unrecognised by your countrymen is shown by the volume of your works, by the honour of knighthood conferred upon you by the King, and, most of all, by your election as a Royal Academician.

Thoreau exclaims, "How admirably the artist is made to accomplish his self-culture by devotion to his art!" and in you we see that it is not only nature but devotion to your art that has endowed you with "the intellectual versatility and refinement, the felicity of temperament," which we recognise alike in you and in the work that you have done.

And now, Sir, because you have these qualities, and because, for a lifetime, you have dedicated them with signal success to the service of your profession, the American Institute of Architects confers upon you its "Medal for distinguished achievement."



THE AMERICAN GOLD MEDAL FOR DISTINGUISHED ACHIEVEMENT IN ARCHITECTURE. PRESENTED TO SIR ASTON WEBB, R.A.

At the close of the President's Address, and immediately following the presentation, Mr. Esmé Howard, Chargé d'Affaires in the absence of the British Ambassador, read the letter from the King, which, together with that from President Roosevelt, is printed in the JOURNAL for 26th January. Sir Aston Webb having been invested with the Medal addressed the Meeting as follows:—

Mr. President, Ladies and Gentlemen, and Brother Practitioners of our Great Art,—I am afraid it is beyond my power adequately to express, in any words that I have at command, the grateful appreciation that I feel, and that I believe my brother architects at home will feel, at the great honour the American Institute of Architects have been graciously pleased to confer upon English architects through so unworthy a representative as myself; for of course I recognise in this award the desire to honour English architects generally,

from which stock, we are proud to think, you yourselves have sprung.

I have come over here to thank you in the simplest, directest, and most heartfelt way I can, and to assure you that the fact that you have given your first Medal to a representative of the old country will always be remembered by them, and by myself, with a deep sense of obligation, and I accept it with a grateful heart on behalf of myself and colleagues.

It is an honour which cannot but increase the friendship and good feeling already existing between architects of the two countries, and which has been strengthened by the delightful personal intercourse afforded to many of us during the late International Congress in London.

As some slight indication of that good feeling, I have received this morning—before it was light—a cable from London from the Secretary of the Royal Institute of British Architects, asking me to make an announcement of the fact that at a meeting of the Institute held last night they elected, subject to their acceptance of the election, three new Honorary Corresponding Members of our body. Those three members I hope you may be interested to hear they have elected are your President (Mr. Frank Miles Day), your Vice-President (Mr. Cass Gilbert), and your past President, and almost father I believe of the Institute (Mr. George B. Post). We shall be very proud if these three gentlemen accept that election and become one of us. We have already the honour of having Mr. McKim as one of our honorary members.

It adds greatly to my pleasure, Mr. President, to receive this gold medal at the hands of so eminent an architect as yourself, whose refined and distinguished works (if you will allow me to say so) I had the pleasure of visiting at Philadelphia, and as to which I feel proud to remember that we may claim some of the credit, as part, at any rate, of your education was carried on in England.

It will always be amongst the happiest recollections of my term as President of our Institute that it fell to my lot to hand our Royal Gold Medal to Mr. McKim, who, I need hardly tell you, entered at once into the hearts and affections of all of us, and has remained there ever since.

There is much in the architecture here that is familiar to us as we arrive in this country, and there is much that is unfamiliar, and therein appears to me lies the charm. I am reminded of the lines of Jean Ingelow (sister of the architect, an old friend of mine) who wrote:—

> It is not likeness only charms the sense,
> It is not difference only sets the mind aglow:
> It is the likeness in the difference,
> Familiar language spoken in the snow.

As one who has only spent a week in your country it would be presumptuous in me, even if it were possible, to offer any remarks on those splendid architectural achievements which I have seen and admired in Washington, Philadelphia, and New York.

But I have noticed how great a hold architecture appears to have on the interest and imagination of people here other than architects. I was to some extent prepared for this by a remark of Mr. Post, speaking at the Guildhall in London last summer, when he said that while fifty years ago little consideration was given to architects or their work in this country, now their position and that of their art were greatly improved. We think we detect a similar quickening of interest in our country, and that it is practically being realised that noble cities with fine streets and good buildings are a great asset to any nation, and do assist to quicken the patriotism of its citizens in a way that no wise State can afford to ignore.

Nor is this general interest in architecture to be wondered at in your country when we consider the problems set for architects in New York, for instance. The problem there appears to me to be a terrific one, and is being carried out at a terrific speed which almost makes us hold our breath—nothing less than the rebuilding of the lower part of the city with buildings some five or six times higher than before. At present, with the work only half accomplished, it is difficult to judge of the ultimate effect. For the moment we see mainly the unfinished sides of these great structures, and there is naturally a gapiness and want of scale which will disappear as the work is completed. Then, as it seems to me, these streets in New York will assume on a gigantic scale very much the proportions of an Italian street—say in Geneva or Florence, with their frowning cornices dominating the roads. It is no wonder that already these streets have attracted the pencils of such artists as Mr. Pennell, Mr. Cooper, and others, and I should be surprised if they do not attract the poet too. The contrast between the turmoil of the busy crowds in the streets below and the quiet calm of those lofty stories from which one can imagine the stupendous energy below being controlled by the thinkers above seems to me very striking and impressive. I felt it myself the other day when I was shot up from the busy street into Mr. Cass Gilbert's artistic rooms, surrounded with drawings and models and enveloped in a pure bright air. Apparently no limit is to be put on the height of these structures, and already there are schemes afoot which, if carried out, will reduce the present monsters to pigmies. I dare venture on no forecast as to the result of this.

The problem of the proper control of the expansion going on in large cities seems to present much the same difficulties in both countries; for the abnormal growth of many of our cities is as rapid and of as modern origin as your own. We are beginning to feel that the expansion ought to be controlled by certain conditions which should

include the provision of open spaces for beauty and also for recreation, together with sites for public buildings, churches, &c. The present development of many cities is, I am afraid, only too well described by a layman in such matters—the Bishop of Birmingham—when he said, "We walk through miles and miles of streets in our big cities without open spaces, with nothing except what Dickens called an uninterrupted view over the way, and think what that means, never to realise or breathe anything of largeness which comes in open spaces. We want the whole mass of our cities to be organised, planned, laid out; instead of that the cities grow at the will of the jerry-builder or the property-owner, orderless, shapeless, without method, because there is no one to plan and forecast and give a city space and dignity and room and order—something that can make it worthy to be called a city."

Over here, I believe, you are seriously taking this question in hand, and that your Institute is often consulted in such matters, as indeed is our own, and also by the Institution of Commissions, which are given certain, if negative, control over their respective cities. This is an example we hope to see followed in our own country. We have already made some small progress in this direction, and in the matter of the Quadrant, Regent Street, the leases of which are now falling in, the design for rebuilding was submitted by the Government to a small committee of architects, with the result that the design was ultimately placed in the capable and artistic hands of Mr. Norman Shaw; and it is surely true that in such matters architects can do good service to the State apart from any question of personal advancement. You have an outstanding example of what may be done for your cities in the great scheme prepared with such extraordinary ability by the Columbia Park Commission for the improvement of this already beautiful capital of yours. The details of this great scheme are familiar to us in England, and we look forward with eagerness to its full completion and to seeing Washington one of the beauty spots and wonders of the world, as it will undoubtedly become when the scheme is carried out.

Again, you will, I think, agree with me that the proper placing of our public buildings is in many ways as important as the design of the building itself; yet with us, at any rate in the case of large buildings, the site is often selected before the architect is consulted, though in domestic work it is more usual to entrust the carrying-out of the gardens and terraces to the designer of the building.

Christopher Wren in his time complained that our public buildings were generally seen sideways, and it is still very rarely with us that a public building is really handsomely approached, with the result that, though very large sums may be spent on the buildings, they altogether fail to impart that dignity to the city which under more favourable circumstances they would do; and this will continue to be the case until local authorities can be brought to understand, through the pressure of public opinion, that in the laying-out of new streets not only are the questions of traffic and sewers to be considered, but that it is expected that the new street should add to the beauty and dignity of the city and of the buildings abutting on it.

The French we know have a genius for the architectural laying-out of their streets and buildings. Take the Opera House in Paris: how splendidly it is placed, and how much it owes to the spacious Rue de l'Opéra leading up to it; and, on the other hand, how much does the street owe to the building. Each assists the other, as they should do. Washington, too, has a splendid example in the placing of the Capitol and White House, due, I believe, to L'Enfant. The City Hall in Philadelphia is another example.

We generally seem afraid to terminate a great thoroughfare with a building, on the assumption, apparently, that for reasons of traffic a street must run on interminably, whereas we know that this is not so, and that the effective length of a street is soon reached. A vista to be interesting must be closed, and closed in good time.

Another architectural matter interesting us at present, and I believe you also, is that of architectural education. We are at present quietly passing through what is practically a revolution in the matter.

The old system of five and three years' apprenticeship in an architect's office is gradually giving place to a preliminary two years' course in an architectural day school, followed by a two years' course in an architect's office, by which means it is hoped to introduce systematic teaching of those questions that can be systematically taught, leaving the more practical matter to be learnt, as at present, in an architect's office.

We also hope to substitute for the dry study of old work through dates and comparison of details in various buildings, as introduced by Pugin, Rickman, Parker, and others, the more human study of the growth and structures of buildings, as shown by their plans and sections, the balance of their weights and thrusts, with a view to getting to the real motives and spirit of their designer. We hope also, to some extent, to be able to mitigate the severity of our present system of triple examinations for admission to our Institute by accepting the work done in certain recognised schools as exemptions from portions of the course, with the details of which I need not trouble you. We have also started a Board of Architectural Education with a view to co-ordinating on these lines the courses of architectural instruction as at present carried on in the various schools throughout the country. But I must not weary you

with what we are attempting. I have touched on this subject only because this question of architectural education appears to me to be one of deep abiding interest and importance to our art, whether in your country or in mine. It is the most unselfish work we can undertake, because we are training men who in due course we shall have to admit as equals, possibly our superiors, and stand aside ourselves perhaps to see them pass us, and we must recognise architectural education to be the greatest influence on our art, after the direct influence of contemporary executed work which must necessarily be the most potent factor in architectural progress. By encouraging the study of the motives rather than the history of architectural design, we hope gradually to bring back to the mind, not only of the student, but of the public also, that our art is a creative, rather than an imitative, one, and that though looking backward is informing and delightful, looking forward is more helpful and stimulating still; and let us hope that while the last century was mainly spent by us, at any rate, in analysis and criticism of what has already been done, the future may be spent, as I believe it will be, in showing that there are resources still left to our art which will enable its practitioners to clothe the multifarious requirements of the present day in a fitting habit of reasonableness and beauty expressive of its time.

Mr. President, Ladies, and Gentlemen, I again thank you for the honour you have done me. The memory of this evening will always remain with me. The Medal you have bestowed on me will be preserved at home amongst my most treasured possessions and handed over to my children, and when I look at it, it will remind me (though no reminder will be necessary) of your wonderful country, your magnificent architecture, together with your boundless generosity and hospitality to my countrymen and myself.

Sir Aston Webb was the guest of the evening at the banquet given at the Hôtel Willard, Washington, on the 9th January, the fiftieth anniversary of the foundation of the American Institute. To quote the American reporter again, "The banquet room was hung with green vines and the tables decorated with roses. A long table at one side, with others radiating from it, gave a form which was suited to listening to the many brilliant after-dinner speeches. On the opposite side of the room the ladies were gathered in terraced rows of seats, giving an added brilliancy to the distinguished assembly." The President, Mr. F. M. Day, presided, and, leaving out of count the ladies, some 250 guests were present, including Mr. Elihu Root, Secretary of State, and other members of the Government, members of the Senate and of the House of Representatives, distinguished judges and ecclesiastics, and leaders of the various learned scientific and artistic professions. The menu-cover, shown opposite considerably reduced, was designed by Mr. E. H. Blashfield, President of the National Society of Mural Painters. The menu itself seems equally the creation of an American artist:—

LYNNHAVEN OYSTERS
Rüdesheimer

CLEAR CHICKEN GUMBO

TERRAPIN
Mumm's Selected Extra

VIRGINIA HAM AND SPINACH

CANVAS-BACK DUCK
HOMINY SALAD
Chambertin

ICES COFFEE
CIGARS CIGARETS
White Rock Liqueurs

The Hon. H. C. Lodge, proposing "Architecture and the National Life," said: "American architecture represents the American people, their hopes, their aspirations. The New York skyscraper at first thought may seem abnormal and dreadful; but we have come to see that it is there because it is necessary to our conditions. It is an American thought—an expression of ourselves, of our growth—and I believe that New York, which is growing, which is now in an unfinished state, will grow some time into something beautiful, majestic, because it expresses the spirit of our people and our times. We are a new country, but not a new people; and it is right that from the older civilisation from which we came we should borrow what was best, and it has been our problem to apply the old forms in consonance with our new aims and our new desires." Mr. Lodge then spoke of the old colonial forms of architecture, so simple, so ornate, and yet so useful. The forms for which they should strive now were forms comformable to their new and strenuous civilisation, not bound by the forms which represented an age of other faiths and other forces. Of this sort he thought the nation's Capitol a fine example. The Brooklyn Bridge, too, he thought, was typically American in its strength, its beauty, and its usefulness. For New York, the city of commerce, which, if it is to grow, was bound to grow upward, the skyscraper, he thought, was fitting and would grow into beauty. "But," said he, "in this our beautiful city, which should be an example to all American citizens, I think that the poor attempts at skyscrapers are blunders, and I hope some day to see a law enacted which, in this city, the seat of our government, shall regulate the height to which buildings may go." He thanked God for the men who had laid out Washington, and had left for Congress and the people of the country a definite plan along the lines of which Washington, the city of all the people, might grow; a plan which provided for a wide park from the Capitol right through the main avenue.

Sir Aston Webb, replying to the toast of "The

R.I.B.A.," apologised for not being an orator, and said that, in view of the speeches he had heard, he felt like "a small New York house surrounded by gigantic skyscrapers." He congratulated the Institute on achieving its fiftieth anniversary, "though for my part," he said, "when I won the distinction of having arrived at fifty years, I did not feel it a subject for congratulation."

In the afternoon preceding the banquet, a tablet in honour of the founders of the American Institute was unveiled at the Octagon by Mr. Robert S. Peabody. The tablet was inscribed : —

1857 1907
THE AMERICAN INSTITUTE OF ARCHITECTS
ON THE FIFTIETH ANNIVERSARY OF ITS FOUNDATION
PLACES THIS TABLET IN HONOR OF ITS FOUNDERS AND OF
THOSE WHO JOINED WITH THEM TO FRAME ITS
CONSTITUTION AND BY-LAWS

The names of the founders were set out in full on the tablet. After the unveiling a reception was held in the rooms of the Octagon, at which a number of distinguished guests mingled with the architects in the drawing-rooms of the old mansion. An exhibition of illustrations of the works of Sir Aston Webb was among the chief attractions of the function.

COVER DESIGN TO MENU OF BANQUET IN CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE FOUNDATION OF THE AMERICAN INSTITUTE OF ARCHITECTS, BY EDWIN H. BLASHFIELD.

THE HOME OF THE AMERICAN INSTITUTE.

By the kind forethought of Sir Aston Webb we are able to give some details of the Octagon House, which, he mentions in the Report printed in this number, the American Institute has now secured for its permanent abode. Among the interesting events of the recent Convention of the American Institute was the presentation by Mr. Cass Gilbert of the Report of the Committee on Octagon House. Mr. Gilbert himself had secured contributions to the premises fund which had cleared off all but $6,000 of the debt. When the report was received another committee was appointed to carry on the work of reducing the debt. Mr. Gilbert suggested that the present time was the most favourable for the purpose, and his suggestion was acted upon so effectually that at the opening of the next sitting of the Convention he had the gratification of announcing that the entire amount had been subscribed, and that the Institute was at last in possession of its own home, without a dollar of incumbrance. The description which follows and the illustrations are from a pamphlet by Mr. Glenn Brown, Secretary of the American Institute.

The Octagon House, at the corner of New York Avenue and Eighteenth Street, Washington, D.C., erected by Colonel John Tayloe, was commenced in 1798 and completed in 1800.

During the process of its erection General Washington often visited the building. He took a lively interest in the house, it being the home of his friend as well as one of the finest residences in the country at the time. After the year 1814, the British having burned the White House, President James Madison occupied the Octagon, and during his occupancy the Treaty of Ghent—which closed the second war with England—between the United States and Great Britain was signed by him in the circular room which is now used as the Secretary's office of the American Institute of Architects.

The house is well built of brick trimmed with Aquia Creek sandstone. The lot is triangular in form and fenced in by a high brick wall. The kitchen, stable, and outhouses are built of brick, and accommodated a large number of both servants and horses, Colonel Tayloe being a noted turfman and keeping many fine running horses. The building and walls conform to the street lines, showing that the streets were accurately laid off even at that early day. The interior is elaborately finished, the doors of the first story being of mahogany and still in an excellent state of preservation. All the work in the circular vestibule coincides with the circumference of the tower, the doors, sashes, and glass being made on the circle, and all are still in working order. The parlour mantel is made of a fine cement composition, painted white. The remains of goldleaf show in some of the relieved portions, and the figures are excellent, evidently having been modelled by some good artist. The mantels in the bedrooms

THE OCTAGON (DR. WILLIAM THORNTON, ARCHITECT).

DRAWING-ROOM, THE OCTAGON.
(As furnished for the Arts and Crafts Exhibition.)

MANTEL IN THE OCTAGON DRAWING-ROOM.

are of wood, the ornamentation being putty stucco. Leading into the back hall and dining-room are two secret doors, in which the wash-boards, chair-boards, &c., run across the door, being ingeniously cut some distance from the actual door, no key-holes, hinges, or openings showing on the blind side. The knobs and shutter-buttons are of brass, and evidently of a special pattern. Two old cast-iron wood stoves still stand in the niches prepared for them in the vestibule.

Bishop Mead, in his *Old Churches, Minsters, and Families of Virginia*, tells us that William Tayloe emigrated from London to Virginia in 1650. John Tayloe, his son, who was a member of the House of Burgesses, founded the noted estate of Mount Airy, Virginia. He had twelve children, one of whom, Colonel John Tayloe, built the old Octagon House. The Tayloes intermarried with the Corbins, the Lees, the Washingtons, the Carters, the Pages, and nearly every other prominent family of Virginia. The mother of Colonel John Tayloe, of the Octagon, was a daughter of Governor Plater, of Maryland, and his wife was Anne, daughter of Benjamin Ogle, Governor of Maryland.

For those days Colonel John Tayloe (commissioned by Washington in the Revolution) was a very wealthy man, having at the age of twenty an income of nearly $60,000 a year, and when the Octagon was built he had an income of $75,000 a year. His eldest son, John, was in the navy, and was distinguished in the battles of the *Constitution* with the *Guerriere*, and the *Cyane* in the Levant.

The memoirs of Benjamin Ogle Tayloe state that Colonel Tayloe was an intimate friend of General Washington, and it was on the advice of the General that the Octagon was built in Washington City, Colonel Tayloe having previously determined to build his winter residence in Philadelphia.

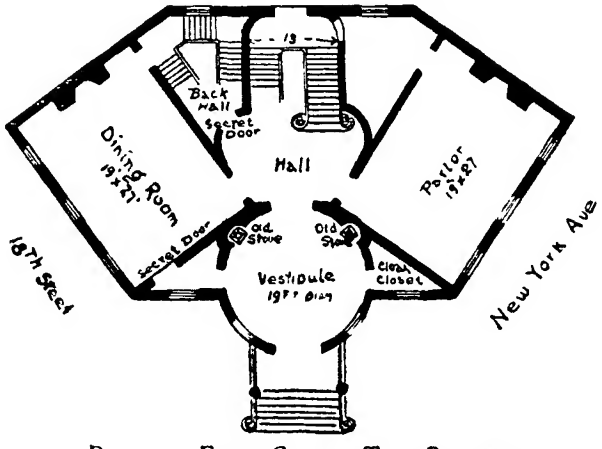
At this period Colonel Tayloe was distinguished for the unrivalled splendour of his household and equipages, and his establishment was renowned throughout the country for its entertainments, which were given in a most generous manner to all persons of distinction who visited Washington in those days, both Americans and foreigners. In this list are included such names as Jefferson (Washington had passed away before its completion), Madison, Monroe, John Quincy Adams, Decatur, Porter, Webster, Clay, Calhoun, Randolph, Lafayette, Steuben, and Sir Edward Thornton (British Minister and father of the recent British Minister), and many others of less distinction than those named. Colonel Tayloe died in 1828, and his death to a certain extent terminated the splendid hospitalities of the Octagon, which had covered a period of nearly thirty years.

The architect of the Octagon, Dr. William Thornton, was a man of note. He was born in the island of Tortola, West Indies, 27th May 1761; studied and travelled extensively in Europe, and married a Miss Brodeau, of Philadelphia, in 1790. In the year 1793 he moved to Washington, where he lived until his death in 1828.

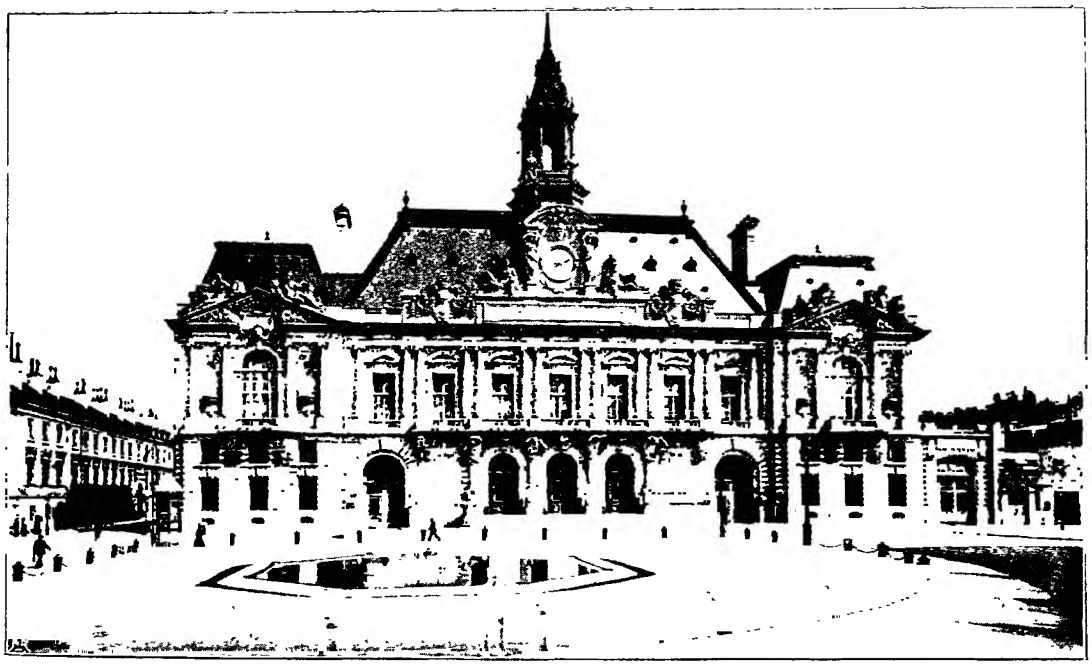
As an architect he was the successful competitor for the United States Capitol. At Jefferson's request he made designs for the University of Virginia. He designed and supervised buildings for General Washington, Montpelier, the residence of James Madison, the Octagon House, Tudor Place in Georgetown, and probably other works of interest.

In September 1794 he was made one of three Commissioners of the District of Columbia, and had charge of executing the plan of the city. His position was abolished soon after the Government took possession of Washington in 1802.

In May 1802 he was made Superintendent of Patents. This position he retained until his death, in 1828, having been the organiser of this important branch of the United States Government. Dr. Thornton should be highly respected by the profession for his meritorious and refined work on the United States Capitol, as well as for his share in the intelligent execution of the early work done in laying out the city.



PLAN OF FIRST STORY, THE OCTAGON.



HÔTEL DE VILLE, TOURS: PRINCIPAL FAÇADE.

MODERN TOWN-HALLS OF FRANCE: THEIR PLANNING, DECORATION, AND EQUIPMENT.

[*From the Godwin Bursary Report* 1905.]

By Fredk. R. Hiorns [A.], *Godwin Bursar* 1905.

PART V.—THE HÔTEL DE VILLE, TOURS.

THE ancient city of Tours, on the bank of the river Loire, was once the capital of the Turones, conquered by Cæsar in the year 55 B.C. In the fifth century it became the capital of the Third Lyonnaise, and is now, after many vicissitudes, the chief town of the French department of Indre-et-Loire. For some time previous to 1204, when it was annexed to the French Crown, it formed a part of the English dominions, and has continued since a much favoured resort of English people. The city is situated 145 miles south-west of Paris, and has about sixty-five thousand inhabitants. The newer portions possess some fine roads, elegant and stately buildings, and spacious and pleasant promenades and gardens. Two magnificent roads intersect it about the centre, one comprising the Boulevards Heurteloup and Béranger, going from east to west, and the other consisting of the Avenue de Grammont and the Rue Royale, going from south to north in a perfectly straight line for a length of over two miles from the river Cher to the Loire, and continuing there in the well-known Pont de Tours – a bridge nearly fifteen hundred feet in length.

The Cathedral Church of this archiepiscopal see is of very old foundation, dating apparently from the fourth century, being burnt down in the sixth and rebuilt by Gregory of Tours, and again burnt down in the twelfth; after which it was reconstructed somewhat slowly, and finally completed in the year 1550. Much of the work here is of interest, and the unusual and rather weird towers which flank the west front were built by Henry V. of

England. Near the Cathedral are the remains of the reputed castle of Henry II. (also of England), now incorporated in the Guise Barracks. The Castle of Plessis-les-Tours, built by Louis XI., and where he principally resided, is about one mile west of the city. The much more famous Chateau de Blois, built by Louis XII. and François I., and associated chiefly with Catherine de Médicis, is also on the bank of the Loire, about thirty-five miles N.E. of Tours.

Many distinguished men have been born at Tours, including, among others, Cardinal Amboise, Prime Minister of Louis XII.; Rapin, and Honoré de Balzac, the novelist; while Rene Descartes also was a native of Touraine.

The new Hotel de Ville is situated on an extremely fine site (as will be seen by a reference to the general view), at the junction of the two main roads before referred to. The very large open square which occurs at this point makes the situation of the building, from the standpoint of effect, about as near the ideal as could be desired in the heart of a city, and the architect might well be envied his opportunity.

The construction of the building was commmenced in 1896 and completed in 1904. The architect was M. Victor Laloux, of Paris, one of the architects to the French Government. I was not fortunate enough to obtain information about the building from any official architectural source, and the following are merely notes made during a somewhat hurried and restricted inspection of the building. One regrets to give such scanty particulars of so scholarly and beautiful a *monument*.

The exterior facing of the elevations is of a white freestone and the roofs are slated—with the characteristic lead and zinc flashings to the mansards and turret.

The main entrance is in the centre of the principal façade, with the great reception rooms and the Municipal Council Chamber occupying the full width of this front at the first-floor level.

The general placing of the more important apartments, main vestibule, principal staircase, and reception gallery and rooms is very similar in arrangement to those in the Hôtels de Ville at Neuilly and Versailles, the general disposition of which can be seen by reference to the plans of those buildings, and can be followed up in the views given of the building now under consideration.

The administrative and minor offices occur chiefly on the ground and mezzanine floors, as is usual in these buildings.

The Great Entrance Vestibule is entirely faced in white freestone, including the elliptical barrel-vaulted ceiling, which has groined intersections from the entrance doorways and the arcading springing from an "order" in Roman Doric. There are four statues of carved freestone set in niches in the walls, apparently representing "Warfare," "Charity," "Literature," and "Painting." The hanging arc lamps here and others in the staircase hall and the upper Galerie des Fetes are of bronze. The entrance doors are of painted wood, the floor of stone and tiling.

At the ends of this vestibule are through carriage-ways under the building used during receptions, weddings, &c.; an arrangement also found at the Hotel de Ville of Paris. [See view of vestibule and principal façade.] These also are faced with freestone. The same remark applies to the great staircase hall throughout, the walls, stairs, and the square cupola. The proportions of the hall are considerable and fine in scale. The central part of the cupola is flat (truncated pyramid), with four sloping sides, boldly panelled and carved, springing from the modillioned cornice of the Corinthian order of the upper stage, and penetrated by circular windows (one on each side).

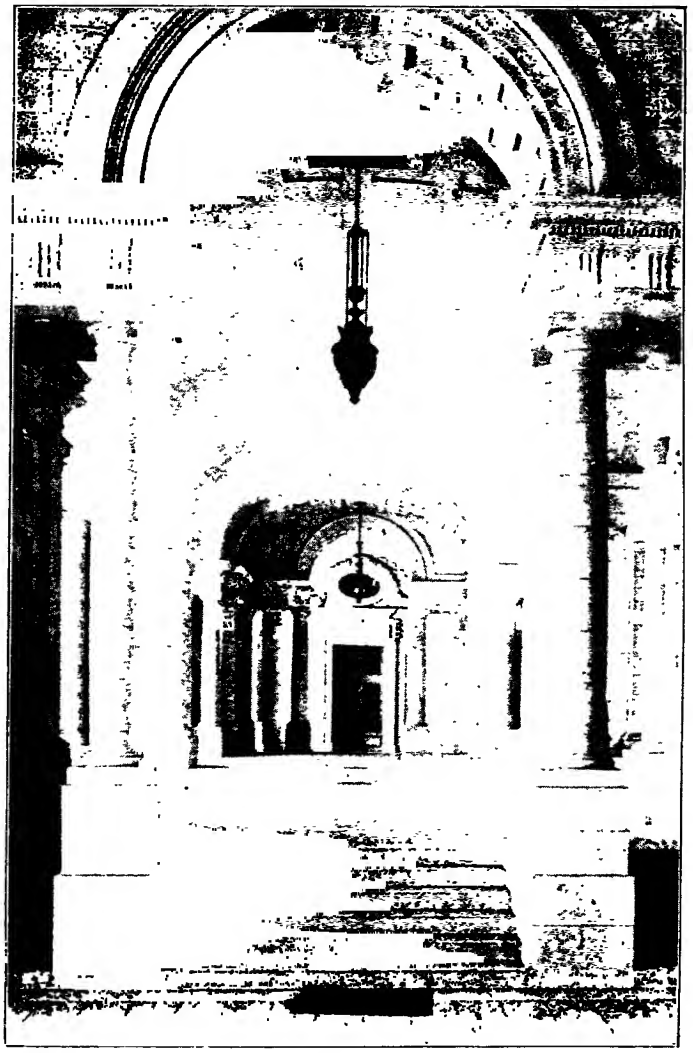
The Doric character is retained in the ground-floor stage, in continuation of the treatment of the vestibule. The floors and landings are of stone and tiling as before. The windows

are glazed with plain glass. At the top of the staircase is the Galerie des Fêtes, with stone walls, barrel-vaulted ceiling, and central cupola in a bold and simple architectural treatment, and with a floor of stone and tile.

On the axial line of the staircase, and facing it, is the principal doorway to the Salle des Fêtes, which, together with the doorways into the Salle des Mariages and the Council Chamber at the extreme ends of this corridor, are well worthy of note.

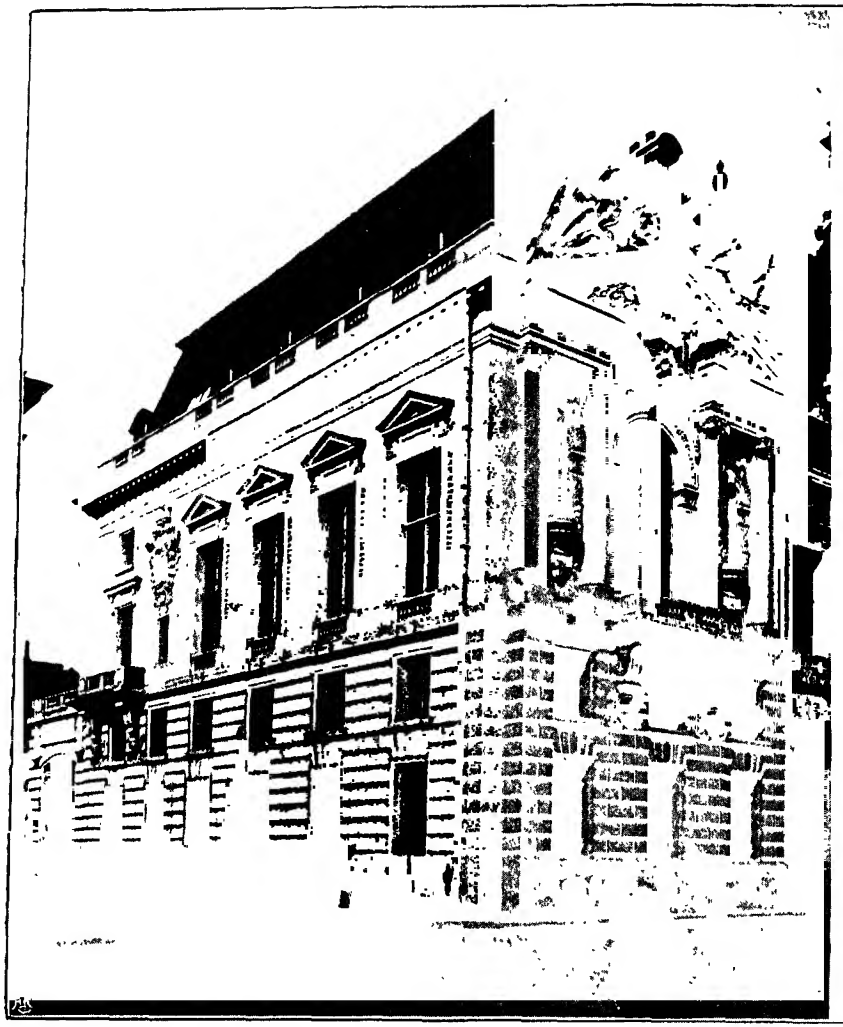
The Salle des Fetes is of the full length of this corridor and of the central portion of the principal façade, and has an entrance near each end as well as in the centre. On the opposite side of the corridor are the apartments of the adjoints, &c.

The treatment of the Salle des Fetes is well shown in the illustration. The general colour scheme is in buff, green, and gold. The barrel ceiling and the walls are embellished with richly modelled ornament and panels containing paintings after the manner of the Hotel de Ville of Paris. The subjects of those in the ceiling are both allegorical and historical, introducing some of the kings and queens of France. The portraits set in panels on the internal side wall show Balzac, Descartes, Rabelais, and Alfred de Vigny, who appear to have been natives of or otherwise connected with the city of Tours. Electric lamps are ranged round the cornice, and there are bracket electroliers on the lower part of the walls. The furniture is of gilded wood upholstered in green and gold silk. The doors open at one end into the Salle des Mariages; at the other into the Municipal Council Chamber.



HÔTEL DE VILLE, TOURS: ENTRANCE VESTIBULE—END VIEW FROM CARRIAGE-WAY.

The Salle des Mariages has walls panelled in wood for a height of about eight feet, with wall paintings above, and a richly modelled ceiling and cornice with circular panel paintings. The colouring of the dado, doors, and other woodwork is of a sage green, with general decorations above in ivory white and gold. The floor is of polished oak. Some of the wall paintings are treated in a very modern spirit, while those filling the large niche at the end of the room behind the dais are allegorical and illustrative of the genius of Tours, and again introduce into the composition Richelieu, Descartes, Rabelais, Balzac, a mayor of the town, and other notable personages. These latter are by Eugène Chirion (1902).

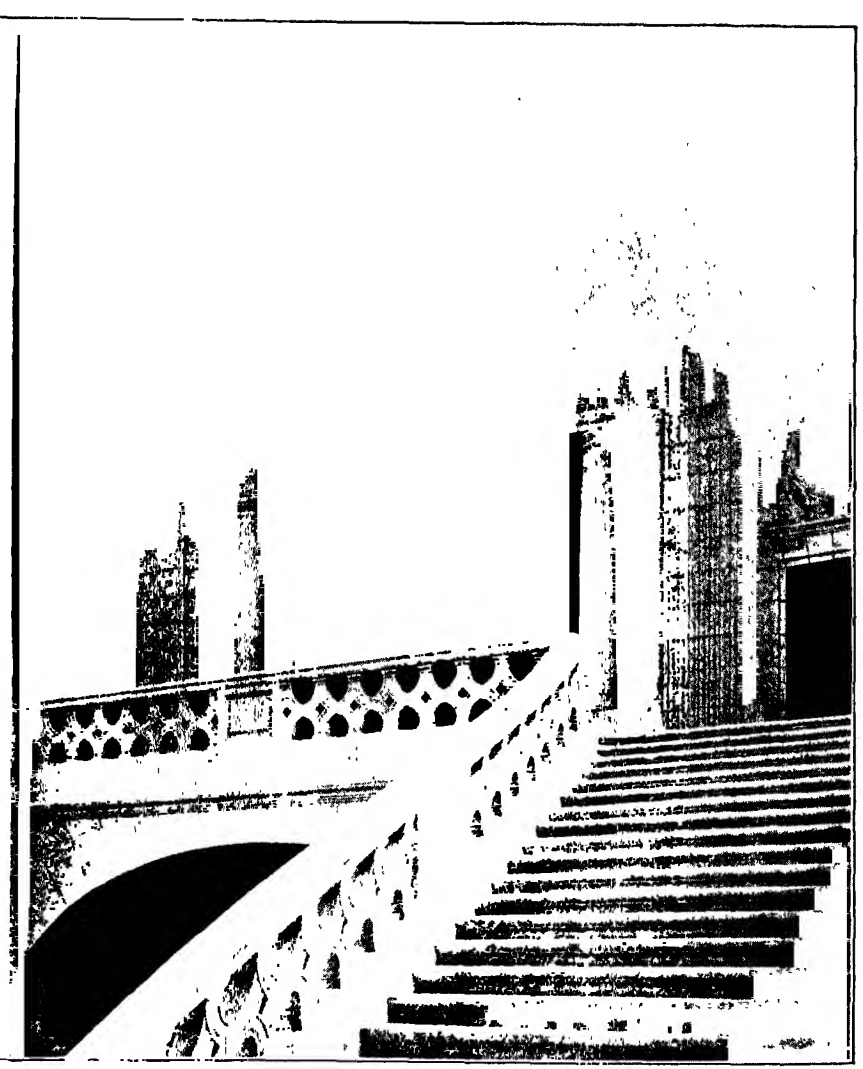


DETAIL VIEW AT ANGLE OF PRINCIPAL FAÇADE.

PRINCIPAL STAIRCASE AS VIEWED FROM ENTRANCE VESTIBULE.

HÔTEL DE VILLE, TOURS.

THE GALERIE DES FÊTES (FIRST FLOOR).



UPPER PART OF MAIN STAIRCASE (OPENING ON TO GALERIE DES FÊTES).

HÔTEL DE VILLE, TOURS.

The difference in the style and treatment of these paintings is perhaps not quite satisfactory. A panel on one of the walls records the fact that the first stone of the new building was laid by President Faure. The furniture is of dark wood upholstered in green velvet. The chimney-piece appears to be of modelled plaster.

The Cabinet of the Mayor opens off the end of the room next the dais.

The Municipal Council Chamber is very similar in size and treatment to the Salle des Mariages, which it balances at the opposite end of the building (projecting pavilions of front

HOTEL DE VILLE, TOURS: THE SALLE DES FÊTES.

façade). Instead of paintings on the walls above the dado, the panels are filled in with what appears to be tapestry of a conventional decorative pattern in blue on a yellowish ground. The ceiling is deeply and richly panelled with general colouring, mainly in ivory white and gold (but without paintings), the arms of the town occupying the centre in heraldic colours. There are three fine paintings by Paul Laurens filling the niches at the back of the room, "Scenes in the Life of Joan of Arc." The seating for the Councillors, thirty-four in number, is arranged on the horseshoe plan, separated by a balustrade from the public seating, which occupies the back of the room on the same general floor level. The Press table is placed in the same space. The Mayor, three adjoints, and the secretary occupy the platform. The furniture, dais, &c., are of dark oak, with upholstering in sage green, and a plain felt cloth

of the same colour covers the tables, the tops of which are flat. The central space is covered with a fine carpet.

The heating and ventilation of the building appeared to follow the principles adopted in the "Mairies" already described.

CONCLUSIONS.

In concluding these notes on what is undoubtedly an interesting and important class of buildings in France, it may perhaps be well briefly to record the more prominent impressions left by their inspection. These may be summed up as follows, though the last three points apply almost equally to French buildings generally of a public character:—

1. That administrative requirements and accommodation in the modern French town-hall are not so complicated or extensive as in England.

2. That a much larger proportion of area and space is devoted to the principal entrance vestibule, staircase, and reception apartments, allowing of their being arranged on a more grandiose plan.

3. That colour decoration, wall paintings, and internal sculpture are characteristic features, almost universally applied, on which considerable sums of money are expended.

4. That the collaboration of architects, painters, and sculptors is practised to a greater extent than in England.

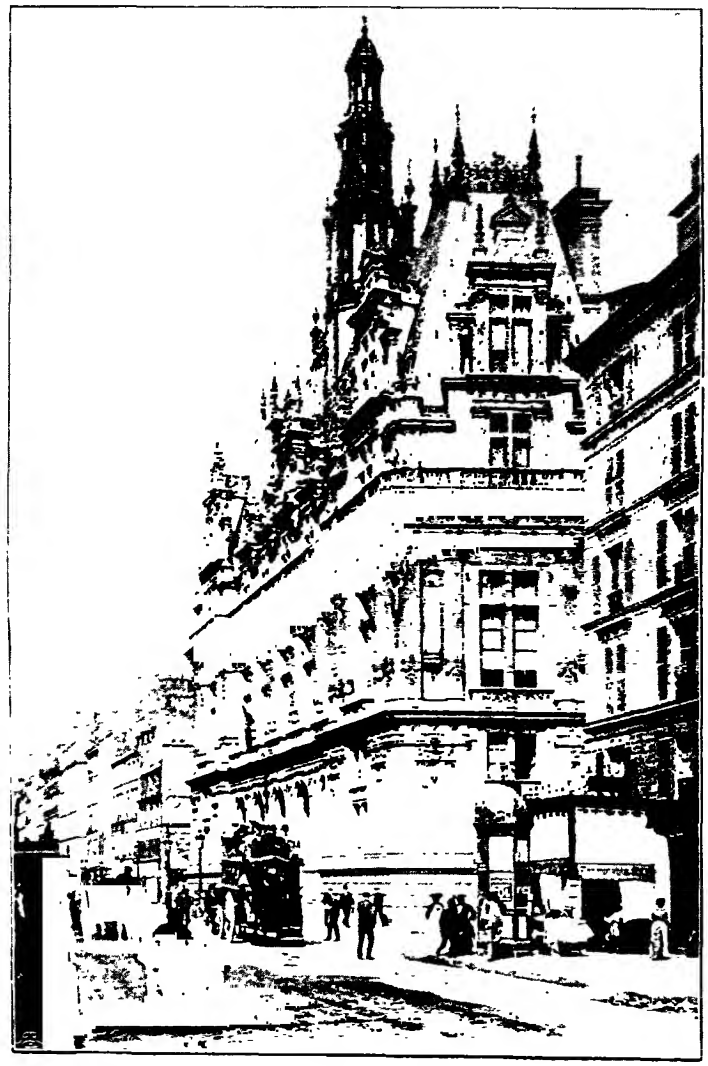
Utilitarian considerations certainly do not obtrude themselves with the same prominence in these buildings as they do with us. One misses the large suites of offices required by the departments of town clerk, surveyor, accountant, medical officer, and other important officials attached to English municipal administration, and which hardly take second place in visible importance to the apartments of the Council in the planning of our own town-halls. The provision made for civic receptions is a secondary consideration with us. In France the relative values seem reversed. While the administrative requirements are less extensive and important as far as they appear to the eye, the areas devoted to ceremonial and reception uses are allotted on a most generous scale, and planned to provide imposing and striking architectural effects. A reference to the plans shows at once the large proportion, both in area and cubical contents, devoted to the entrance vestibule, hall, principal staircase, and Council Chamber and reception rooms, and that these apartments present admirable opportunities for architectural and decorative treatment.

The use made of the town-halls of France for the celebration of civil marriages, apart from the other social aspects of these institutions, would naturally result in greater attention being given to considerations of effect than our own more utilitarian conditions demand.

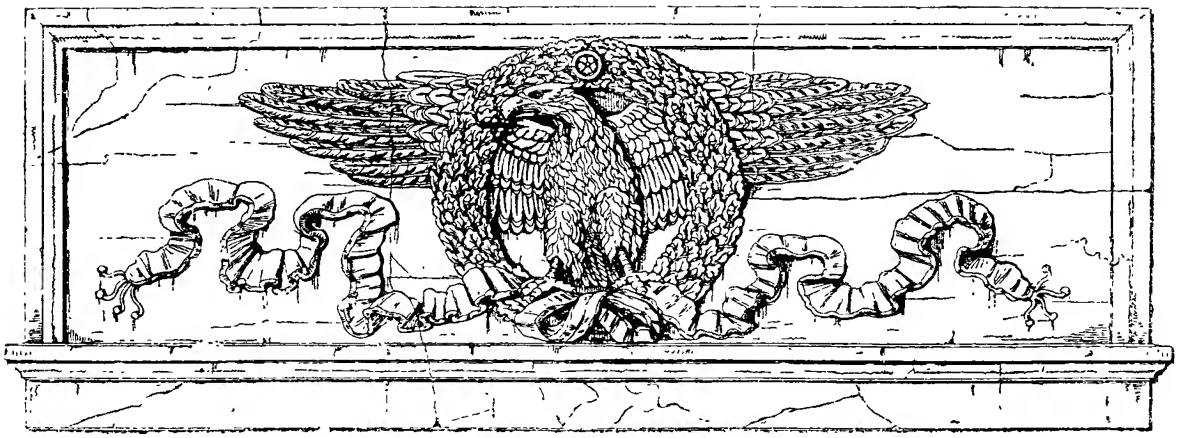
The practice, too, in France, of designing the principal apartments more or less as receptacles for elaborate schemes of colour decoration, paintings, modelled ornament, and frequently of sculpture, leads to interesting results. The services of talented contemporary artists are enlisted to produce representations on walls and ceilings of scenes in national or local history and other subjects calculated to inspire succeeding generations with pride in their country's genius and power. The sympathetic interest of the Government in the advancement of the arts gives doubtless great encouragement to such a policy. The result is that the modern French town-hall is a type of building of distinctive character and interest —useful, dignified, and beautiful—of which the municipalities concerned have reason to be proud. It expresses, again, that happy combination of utility and art which appears to be the birthright of the nation.

It only remains for me to express my deep obligation to the various gentlemen who so

kindly granted me assistance in these investigations and supplied me with plans and other information respecting the buildings I visited. Among these perhaps I may specially mention Messieurs the Mayors of Versailles and Neuilly; Monsieur Bouvard, Directeur des Services d'Architecture to the City of Paris [*Hon. Corr. M.*]; Monsieur l'Inspecteur-en-Chef des Beaux-Arts, City of Paris; Monsieur Formige, Architect to the Hôtel de Ville, Paris; Monsieur V. Dutocq, Architect of the Hotel de Ville, Neuilly; Monsieur H. Le Grand, Architect of the Hôtel de Ville, Versailles; Monsieur Dulong, successor to Monsieur Rouyer as Architect to the Mairie du Xe Arrondissement, Paris; MM. Dupont and Poivert, Architects of the Hotel de Ville, Sens; the "Secrétaire-Général" of the Hotels de Ville at Versailles, Sens, and Tours; and Monsieur L. Chemin at the Hotel de Ville, Paris. I have also to thank Mr. H. Heathcote Statham for kind advice in the selection of some of the buildings visited.



MAIRIE DU Xe ARRONDISSEMENT, PARIS.
[See pp. 132-140.]



ARCHITECTURAL JOURNALISM.

By Maurice B. Adams [*F.*].

Read before the Northern Architectural Association, Newcastle-on-Tyne, 20th February 1907.

I DO not propose to indulge in personal reminiscences, though perhaps such a Paper might pass the hour more interestingly than the precise programme immediately in view. From the Pugin-Barry controversy onwards it has formed part of my business to come into contact with a number of people more or less known to fame in the architectural world, and to hear an array of stories told about architects and professional concerns. Through flux of time, naturally enough, several of the opinions so expressed, and the experiences thus confided, relate to those who have passed away—men reckoned notable personages during the last quarter of the nineteenth century. The disinterested characters and kindly dispositions of some of these remain delightfully green in one's memory; a few, otherwise distinguished, exist far less pleasantly fresh in our recollections. I must relinquish what I could but think a considerable temptation thus to repeople the stage with such old friends and familiar individualities, because we must not overlook susceptibilities likely to be wounded by such a recapitulation. Tales, too, told perhaps at the expense of the living, might engender an affront with those whom they most concern. The safer course, therefore, will be to avoid all confabulations of this nature, and so I will commence my subject with an abstract proposition.

What is the relation of architectural journalism to architecture as a living art; and is the influence of the professional Press conducive to its progress or not? *A priori*, the answer must depend upon two things, viz. a just understanding of architecture as now practised, and a proper appreciation of the legitimate sphere of journalism. It will, at starting, be incidental to our inquiry if we also briefly indulge in a little introspection. The modern architect has been evolved concurrently with the growth of professional journalism; the two have developed side by side. They appear to be inseparable, and certainly act and react each upon the other. We may do well, therefore, to make a note of that circumstance. Moreover, we cannot fail to acknowledge the fact that the best architecture which the world has universally recognised was erected ages before the days of newspapers or professional architects, and most of it dates long prior to the invention of the printing press. The very name of "architect" does not even appear to have been in use in England any way till early in the sixteenth century, though it came into vogue rather sooner perhaps in Italy. "Ingeniator" was the designation given

to King Henry II.'s master mason Alnoth; and in the thirteenth century this term might have been applied to others and equally to Pierre de Montreuil whom records describe as the head of an association of workmen engaged in designing and erecting the Chapel of the Virgin at Saint-Germain des Prés, in which church he lies buried. An inscription on the south porch of Santa Maria Maggiore, Bergamo, names its designer as "Magister" Johanes Campiglio 1360. These worthies were salaried officials employed by patrons, however, but not appointed, of course, by county councils as functionaries to engineer an architectural bureau, which makes a difference. We have also to remember that the arts flourished in their highest forms unaided by Academical displays or popular gallery shows. The noblest triumphs of masterly building and the "supreme of earthly masonry" had grown mellow by age centuries on end before professors of architecture found a vocation or lecturers on art flourished on a syllabus. Preachers of old time are of course familiar in ancient history, and sermons, I suppose, will be delivered till the end of all things. This, in passing, reminds me of a second-rate literary acquaintance of considerable pretensions who one day made some critical observations to a well-known Canon famous for his preaching abilities, and asserted that ere long sermons would become obsolete because as arid ineptitudes they caused so much waste of time. My clerical friend retorted that "sermons would be needed so long as 'bookmaking' remained a recognised trade." Compilers of books have been termed "bookies." Bernard Shaw, after alluding to the mistakes made by the Great Architect of the Universe, with characteristic modesty called art critics "Press parasites," a classification in which Whistler probably voted Ruskin; and Marie Corelli, who has given a tone to Shakespeare's birthplace, holds the journalist in scorn by refusing to furnish her fiction to be reviewed. Preachers proverbially go by the name of "sign-posts" in the West of England, "ever giving directions, but never proceeding themselves"—"sky-pilots," in fact; while a further unconventional commonplace describes the newspaper man as a "penny-a-liner." Nevertheless, the predestinated way of artistic achievement is of necessity marked by milestones in order that the learner along the road may trace the evolution and localisation of style both in literature and in art. The annotator of architectural periods thus fulfils a useful function, though it is fashionable to decry him and his wares as useless baggage. The pæan of the professorial pundit, so high in favour, serves to kindle interest and inspire enthusiasm; while last, but not least, the professional journalist takes a modest part in the propaganda of the hour, and furnishes the architect with one of the best means of education ready to his hand. Perhaps the journalist has the advantage, seeing that his audience is not restricted by four walls. Journalism certainly has its attractions, too, for the practitioner who now and again delights to dabble with the pen, however much he may rightly dread being thought merely a preacher. William Burges, when speaking disparagingly to me about a lecturing busybody then enjoying the heyday of a very lucrative practice, observed, "When So-and-so went into an architect's office a born popular preacher was spoiled." Burges, an exquisite writer and a facile lecturer, replete with a knowledge of the grammar of his art, was one of the first to insist upon the risk of artistic intuitiveness being stunted by a surfeit of the dry bones of glossological archæology. He foresaw that no advance in living art could be possible by the process of laboriously reproducing the letter of past modes and styles. Since his day the up-to-daters have wandered away from the leading-strings of good taste, ignoring precedents, and, proceeding under a vulgar misapprehension, have presumed that precocious newness might pass as a substitute for artistic originality. Adroit as such ingenuity of manipulation may occasionally be, it is at best only a kind of cleverness quite alien to dignity, subversive of breadth, speedily culminating in becoming absurd. The consummation of the queer, only so lately the fashion, has, we hope, seen its climax in the topsyturvydom of design

which must be ineffably repellent to cultivated minds. The headlines of sensational journalism and snippety paragraphics are of a like kind, ephemeral as a catch-penny, and quite as useless. The journalist has to restrain his extravagance if good work is to result, and the architect must guard his imaginative faculties if his conceptions are to be accepted as successes. The immature by culture alone can learn to eschew the liberties of wanton excess in either calling, and so be prevented from running wild or drifting rudderless to ruin. *A propos* of those who ignore rules and attempt designing on strictly novel lines, guided solely by their own unaided conceit, Hogarth published a satire illustrating the inhabitants of the Moon showing their horrid catastrophes resulting in monstrosities. You will also recall his other well-known plate wherein the absurdities arrived at by ignoring the laws of perspective are so graphically depicted. These trite conclusions spring unbidden to the mind as equally applicable to both the classes of people we are thinking about. To achieve distinction and compass success both of them must possess inborn qualities beyond the scope of extraneous acquisition, and to this extent at least both are identical. The architect and the journalist must further coincide in recognising contemporary conditions as men of affairs, perforce realising that the limit of their opportunities cannot fail to be largely influenced, not only by their particular environments, but by their individual proclivities. Foremost, it is incumbent upon the newspaper reviewer to take a wide view of things and cultivate a catholicity of taste. Architects are prone to work, perhaps, in a narrower groove. In all callings the capable man can readily be recognised from the dubious dolt by his resourcefulness in selecting methods and adapting ways and means appropriate to each problem as it arises. This, in short, is a faculty naturally of the first consequence, being the best evidence available that the head of a man is fittingly adjusted to his shoulders. With the crank and faddist it may be assumed that there is generally to be found a screw loose somewhere. A born architect never knows when his art impulse first began, and it has been said that "an artist's career always begins to-morrow." But then, however true that saying may be, the architect, as a practical master builder, is perpetually engaged in proceedings permeated with the actualities of to-day. It is difficult, therefore, to appreciate the questionable wisdom of some wiseacres who pretend such relentlessness against all certificates whatsoever in regard to architectural proficiency. The receipt of any diploma will not certainly initiate any artistic inspiration; and I admit that no examination in ethics can ensure a capability for good design; but such a test as is possible in building proficiency does not necessarily turn an artistic student into what has been called a "building barrister." This incisive term was invented by a well-known professorial Fellow of the Institute, a copious writer and conspicuous art-class teacher, to describe his professional brethren, referring to them as "special pleaders of an organised and would-be privileged corporation," overlaying the dreary work of artisan drudges with the supercilious trick and grimace of art, mistaking that for architecture, as if the architecture of the past, from the Parthenon to Westminster Abbey, consisted of a superficial veneer. We fully concur with him that design is not, and never can be, the abstract exercise of a faculty *plus* a pair of compasses; but it must be the insight as to the capabilities of material for expression when submitted to certain forms of handiwork, the imaginative foresight which comes of the designer's experience of his former results. One cannot too often repeat that texture distinguishes good architecture from mere building; and the journalist reiterates this fact, adding another as to the need of breadth, and repeating the claims of good proportion, with an insistence which is liable to be wearisome. But for all this humble endeavour, the petulant party, who fancies himself in advance of his fellows, turns round on the Press, as if it could be held responsible for the inherent shortcomings of architects themselves. The

complaint referred to implies that all pictorial prints are inadequate, or something worse; and so the journals are harmful and blameworthy. This is unreasonable, because, however sensible of texture the draughtsman may be, no illustration, photographic or otherwise, can actually depict a subtle quality only to be realised in the building itself, where more often than not it will be found wanting. All perspectives and representations in the flat are condemned. Butterfield told me that he objected to such drawings because they did not produce the effect of a building such as was obtained by walking round it. This objection was not convincing. The model to scale is the alternative advocated; and though the model has many advantages, it has its distinct limitations. Doctor it up as skilfully as you may in sand, plaster, and paint, the quality of texture eludes your grasp; and while you seek redemption in thus "working in the round" it is quite as easy to fake a plastic model as a drawing, adding a deceptive attractiveness just as often as not. False impressions are given by models as readily as by studies that are "passed off" on clients as "sketch designs." Burges said, "It matters little if you do deceive your client, but take care you do not deceive yourselves." He was man of the world enough to remind us that "half-a-crown is to be found at the bottom of most things," especially the "arty" model. He likewise recognised what a fraud the modern pupilage system has been. His summary of its possibilities was expressed with a degree of cynical asperity when he wrote that a young architect might thereby be prepared to make money, bring up a family, become a churchwarden, and, above all, be pronounced "warm" on leaving this mortal sphere, bequeathing to the world a name written in water. Perhaps the memorials of such a practitioner might befittingly be interred in the back volumes of the Building Papers, there recorded through the medium of process prints. Be that as it may, no doubt can exist that the failure of the pupilage cooking trade has been continually exposed by the professional Press, and the most thorough-going and consistent advocates of the Day-School movement have been found among architectural journalists. Speaking personally on this point without egotism, I may claim to have initiated the transfer of the Architectural Museum to the Architectural Association for the sole purpose of placing the Tufton-street Day School on a sufficient basis to give it the chance of developing into the splendid success which it has since secured. We are advised by our friends not to allow the profundities of the profuse to deceive us. We are fully alive to the fact that the best schooling syllabus, the most complete book knowledge, and the most efficient "art and crafties" workshop curriculum are merely stepping-stones towards an end. It is only possible to digest a limited amount of such limitless advantage; and everybody knows the transient qualities of any process of cram. We have all heard of the Irish veterinary surgeon who sent in his bill "for curing your pony till he died." The ordinary pupil runs no risk of this kind, for he has to pick up personally as best he may all the knowledge he is likely to get in an ordinary office. Principals perhaps, as a rule, do little beyond pocketing the premium. The Day School does afford a systematic method by which the pupil can learn from qualified teachers, who may ennoble the mind by the sustaining qualities of patient instruction, and very possibly inspire the taste too.

It is hardly practicable to define the vocation of an architect with exactitude nowadays. The definition issued by the American Institute led to no little adverse comment, and I have not seen any attempt to fix the limitations of a technical journalist. Sometimes people fancy that he has taken up this kind of work, having failed at all else. The far-reaching influence of a nobly designed building is anyhow beyond reckoning, and the same, too, may be said of the power of a capable Press. If we assert that the English papers are second to none, it is perhaps no more than facts justify. No one realises the shortcomings of his trade better than the publicist, particularly should he chance to be an adept in his craft. Whether architecture is recognised as chiefly replete with poetic possibilities, or is treated as a prosaic building business,

to be enlivened only by the occasional contentious niceties of professional politics—to whichever side you attribute the most importance you are considerably indebted to the good offices of the journalist. This is sometimes not so fully acknowledged as might be expected, but in any event you will agree that we all owe a debt of gratitude to the enterprising secretaries of our several Societies for annually arranging their sessional programmes and discussions, thereby adding to the dissemination of knowledge and the common stock of technical information. Public interest also in architectural matters is augmented in no small degree by these means, largely, I may add, by the help of the journals.

Now and again only, however, does it happen that some more venturesome spirit than the rest, gifted, it may be, with a nimble mind and presenting, perhaps, an attractive personality, propounds some paradoxical revelation, and to this end assumes a truculent air, riding a-tilt at generally accepted conclusions, and thus, for the nonce, unseats our common complacency and sets people thinking. A welcome ever awaits such an intellectual libertine, either in the press, in the pulpit, or on the platform—one who can capably arouse the lethargic quintessence of his fellows and startle their latent powers of combativeness into activity. Nothing can be more dismal than to drone on, treating a daily task as a drudgery. Even the unrestrained prodigality of *L'Art Nouveau* obtained recognition as an attempt to emancipate applied design from antiquated senility. To preach with perspicuity belongs not to the many, and to practise with distinction comes only to the few. Their little leaven must be looked to for the leavening of the whole lump. With this purpose the architectural Press stands for a good deal, and by its means the chiefs in the profession for the time being are brought into touch with the unseen countless numbers of inarticulate workers, who are thus influenced for the better. In a sense, of course, the immediate result perhaps is incomparable with the old traditional guidance which has for ever been lost. The patriarchal personal influence and primitive receptivity of the learner, too, are numbered with the past. In the thick of competitive claims for the mastery and the strident demands of labour it is somewhat remarkable to note how firmly conservative instincts intrude and reassert themselves even among so-called emancipated individuals who take a foremost place as convinced Progressives. The fallacy of one-sided and over-belauded Free Trade is an instance in point. Personally I pride myself on a splendid set of prejudices, and confess a predilection for old-fashioned ways. New journalism does not attract me with its "hidden treasure" and "missing grandmother" competitions. It was therefore with considerable diffidence that I accepted the invitation to read a Paper on architectural journalism, notwithstanding what may be called my accumulation of prolonged connection with the Press, for I may be behind the times. I presume that the suggestion that I should say something on the subject originated in a knowledge of my thirty-five years' intimate acquaintance and personal experience, which for a practising architect engaged also in such a project is, I believe, unique—anyway in this country. No one appears to have thought journalism in relation to architecture needed talking about, and the adaptability of the subject to a Sessional Paper, so far as I know, has never been tried before. Hitherto I have refrained from alluding to the matter in public, preferring to let the work accomplished in this regard speak for itself; and this, for one thing, is why I have left to others the opportunity of responding on behalf of the Press. It is doubtful if anything remains for me usefully to say. A novice quite likely might tell you more than can be reasonably expected from one growing mature in the journalistic calling. The financial aspect of the matter I do not contemplate discussing, and the mechanical details of newspaper production are already well known. I hold no brief on behalf of the professional Press. These publications require no apology at my hands. They appear to be very flourishing, and far from degenerating into a moribund condition. When they have ceased to serve their mission

death will gather in all that remains of their enterprise and service. The staple pabulum of all class journals naturally has to be sought in professional politics and fiduciary economics. Without advertisement revenue no paper could exist a day. The merit and variety of the illustrations comprise their chief interest and permanent value. But beyond the scope of the immediate needs of the business of the architect, the surveyor, and the builder, a much wider question, as you will presently see, is involved in the prosperity of the architectural Press. We need not stay to find the least common denominator in determining where the evils resulting from these periodicals commence or where their possible good may end. That knowledge would be of little use even if found. It is far more to the purpose to remember what Professor Armstrong said about the imminence of education: "Interest cannot always be maintained at bursting point; in school, as in the world, uninteresting work must be done sometimes, and in point of fact it is most important to acquire the art of doing uninteresting work in a serious and determined way." It would surpass the wit of man to make every number of any serial publication come up to one invariable standard of excellence, and only when uniformity of deadly dulness sets in can it be said that a just cause for complaint arises. A margin of merit must be conceded. And, further, in criticising the journals, as everybody has a right to do, people so often overlook the fact that things in which they chance to be particularly interested are the very subjects which others care nothing about, and *vice versa*. The best of us are apt to take too restricted a view, curtailing our energies to personal interests, and so overlook much that is going on around us. I doubt if even the most alert prognosticator can foresee or trace with any exactitude the precise goal to which all the educational activity of the present time is tending. Suffice for us to know that trades and manufacturing processes are being revolutionised, and, amidst the immense potentialities of technical training, are being extended and advanced both at home and abroad, thus influencing the destinies of nations after a fashion, and on a scale unknown to previous generations. From whatever standpoint we view these things, they are beyond our control, and we shall do well to waste no time hankering after primitive traditional customs and patriarchal feudalism. The old order has become absolutely incompatible with contemporary economics, Fabian or otherwise. Our immediate concern is as clear as noonday; building workers must be brought into unison. Municipal trading schemes, Direct Labour undertakings, and syndicate combines may do much, but they are not likely to corner the building industry just at present. County councils, like commercial Trust Syndicates, have, however, journals of their own to promote their own ends. The architect with an eye to coming events cannot afford to ignore the necessity of looking to his bearings, least of all to dispense with the journals of his professional class. His paramount influence as an artist is a very valuable and essential asset, convincing enough up to a certain point; but the only footing upon which he may safely rely as a stand-by is his function and ability as chief builder and master of the works, qualified as a building expert capable of holding his own in the open market, equal to difficult constructional problems, economic modes of building, and able to protect his client's interests when dealing with enterprising contractors. All this is so well understood, and so mundane, that even a journalist might perhaps blush at such a recapitulation of the obvious. But, for all that, the architect must learn to wake up, and it is hardly necessary to remind him through you what a stupendous concern the building industry has become, and what a different affair the trade of a builder is now from what it used to be only a few years ago. Remember the multitudinous interests thus embraced and how many of them are individually antagonistic, competing in almost every grade in the stress of stern reality. The architect has the best of reasons for knowing what cutting competitors will do, and the journals are fully acquainted with the every-day struggle for existence. How is all this gradually affecting the architect?

Engineers and specialists of every variety, including the so-called Guilds of Art Workers and Crafts, are all uniting in some way or another to wrest the architect's vocation from him and insinuate his end as a mere superfluity. The more affluent members of our profession may think lightly of such inroads, treating them as of no importance. Not so the rank and file, who can plainly see what this process, which is being encouraged, really means, first in one direction and then in another, till one's opportunities become smaller by degrees and rapidly less, not only for "designing in beauty and building with truth," but in the meantime the architect's bread-and-cheese chances may be said to stand in jeopardy every hour. I am not a pessimist, but as a journalist I may attempt to put into plain terms what so many must have in their minds. It may be that what folks in Newcastle are thinking to-day the world will be thinking to-morrow.

Consider the position after a broad view of what is going on in almost every centre of activity with Polytechnics, Arts and Science schools, Crafts classes and Trades colleges, all crowded like busy hives of industry, creating a throng of either co-operators with architects or competitors against them. No solution whatever will be arrived at by being supercilious, because the architect must become alive to the ultimate problem involved. He cannot afford either to ignore or stand aloof in this movement if he is to secure a hold on the wider issues of our national life. The professional journals constitute a much more intimate factor in this regard than perhaps may have occurred to you before, and it is evident that, among the vast concourse of students and teachers comprehended in the Higher Educational Scheme just alluded to, there exists an untold number of readers for whom the building papers have a very real interest.

Beyond this, again, there is the power of the Press in influencing public judgment; and often it would be impossible to obtain a hearing without the aid of journalists, who are said to hold the ears of King Demos in keeping. Modern intellectual, political, and social conditions differ totally from those prevailing in the days of the Plantagenets; and yet we are continually being lectured about the discrepancy of methods architecturally characteristic of the Middle Ages as compared with those of the reign of King Edward VII. Those who most harp on this string are the inconsistent people who never cease to bemoan caustically what they designate the inanities of the Gothic Revival. These also are the critics, too, who say that the architectural papers only serve to make the cribber's repository replete with an ever-increasing choice of patterns, and mostly bad ones at that, because, forsooth, the aforesaid candid grumblers mostly keep their own precious productions to themselves. Thus, on their own showing, they never give the reader even a rare chance of seeing how things ought to be done. This criticism about cribbing leaves my emotions quite untouched. I have seen too much of it done by every variety of architect, "'twixt wind and water," to be moved on that account; and my experience is that those who make the most fuss about giving their brains to other people are the last persons in the world who run any real risk quite in that way. By continually publishing the best contemporary drawings of the most successful buildings, and in illustrating the designs chosen in current competitions, the professional periodicals serve an unquestionable service, to say nothing of the historic examples of all kinds so copiously given as standards for reference. This dissemination is not limited by any means to the cities and big centres of enterprise, seeing that individuals living in the most remote places are reached almost as readily, while architects and subscribers in our colonies have again and again told us how they look forward to see the journals as the mails arrive. We, too, at home, by the same means, are made acquainted with what is going on beyond the seas among our fellow workers who are engaged in developing countries in which many of our sons will have to make a home.

With this expansion almost every industry finds the need of one or more class journals,

and the tendency is to increase their number. They extend already far beyond the limitations of the particular businesses in which the architect is concerned. No doubt many of these minor papers, as more essentially trade journals, are dominated by strictly commercial ideas based on the rage for cheapness and actuated by a gross materialism determined by conditions depending upon facility of manufacture and a sterile system of decentralised labour, artificially allocated by Trade-Union shortsightedness, whereby the individual artificer is made part of a brainless machine, devoid of personality, and the victim of two opposing forces – viz. Labour Party protection on the one hand and cutting contracts with sweated foreign slop-work on the other. All this materially adds to the complication of all building operations, which by their very nature are sufficiently complex in themselves. Herein lies the ultimate issue for the architect, hereby making him essential for the practical success of all such undertakings, and thus consolidating his position as indispensable to the employer. It constitutes, in fact, the sheet-anchor of the position. This is why I am, at the risk of wearying by so much reiteration, insisting upon the folly of belittling the need of an architect's business qualifications, because it is so easy to deter artistically minded youths from becoming practically efficient in this direction, by disparaging the supreme necessity for a building expert—as an architect must obviously be—to supervise personally his own buildings. It may even be true that a none too scrupulous contractor turns an architect into a sort of architectural policeman. Everybody knows what I mean. It is a distasteful experience enough, I am fully aware; but, after all, there is no examination test like it to teach an architect his business, and enable him to master the builder by becoming the actual Master Builder himself. With this enormous enlargement of the architect's duties thus necessitated by the growth of the multiplicity of concerns in relation to building affairs, the professional journal has grown proportionately in importance and has increased concurrently with the development of the professional architect all the world over. By the almost plethoric list of foreign publications which I attach to this lecture a very fair idea will be obtained as to the truth of this assertion. The specimen numbers of the best of these 112 periodicals shown to-night have been garnered together from all parts of Europe, America, and the Colonies, so that you may see for yourselves how they compare with our British journals, and I think you will admit that such an assemblage makes a very interesting and novel display well worthy of your attention.

Class journalism has long outgrown the time when the papers first in the field presumed that the prescriptive rights of priority of occupation precluded friendly relations with newcomers. We have outlived such narrow ideas, for strenuous, uncompromising competition has levelled such notions to the rock-bottom of the problem, presenting but one inevitable solution, which, briefly stated, eventually means the survival of the fittest. In the meantime neighbourly rivalry and emulation fairly conducted afford the best available means conducive to wellbeing. I have not the remotest intention of instituting invidious comparisons between one periodical and another, either British or foreign. Each journal can, I dare say, give a good account of itself; and I am not inclined to set too high a value upon any of them, for their shortcomings are ever before me. I have reckoned some very valued friends during my journalistic experience among the members of the Press, and I could tell you some most amusing incidents which have come in my way relating to some of them. The gaiety of life is enhanced by diversities and contentions, while with some people their foibles constitute their greatest charm; folks are so very human after all. Even behind the screen of the imposing editorial "We" this is so at times. It has often occurred to me how remarkable it is that equally able individuals should entertain such diametrically contrary opinions about the merits or otherwise of the selfsame thing. There is, I suppose, no accounting for

people's tastes. Such is the habit of mankind. What a humdrum pellicle of a place this "valley of tears" would be if we all thought alike! Our journals would be duller than they sometimes are already. Much of their space is necessarily occupied with ephemeral matter answering the fugitive needs of the hour; but you will do well to note that, whatever power the Press may possess, it cannot make insignificance significant. I mean these papers have in the main to be recognised as records of other people's doings, and they reflect the best that is being produced at the time. On the whole, this agreeable task is well performed with a catholicity of selection, a regularity and an impartiality which at least commends itself and pleases the majority. There always remains a residuum who would like to have a paper all to themselves, and I dare say think they would do great things. Judged by an academic standard, or looked at through the barnacles of a cult, some of the illustrations are mediocre enough, it is true, unrelieved by freshness or artistic charm; but obviously great designers can be counted on the fingers, and distinguished works of art necessarily are few. An annual magazine might have leisure to collect and pick out the supreme, eliminating everything which does not count as excellent, though I doubt it. Somehow good, bad, and indifferent performances gain equal publicity, and this is precisely the distinguishing characteristic of each Royal Academy show, as in every other exhibition. The work of the most capable man even is unequal, and occasionally most disappointing. Weekly journals are primarily newspapers, and you cannot reasonably compare them with expensive magazines; but no monthly publication can compete with them in the matter of large circulation and thorough representation or up-to-date form. In passing judgment upon the relative value of any illustrations, it is clear that, though the subjects may lack artistic merit, they probably present an interest of another kind, perhaps as a planning scheme or some special kind of building of exceptional value to one class of reader, but of little use to another. The journals are very much what the profession is capable of making them. Taken as a whole, the work chosen for illustration, if not above the average standard, certainly is not below that level. The reports of meetings and reprints of Sessional Papers add immensely to their permanent importance, thereby reaching subscribers in all parts of the world. The public service rendered by the reviews which constantly appear in connection with architectural competitions is too evident to need elaboration, and so is the advantage accruing from the medium afforded in interchanging ideas by correspondents, and in circulating reports of legal cases connected with building enterprise. The Designing Club, inaugurated a quarter of a century ago in the *Building News*, has been such an unqualified success that perhaps I may be pardoned for specially alluding to it. There is a further feature of practical importance supplied by the leading periodicals yet deserving mention, and that is the occasional issue of measured drawings and details, or the reproduction of historic documents connected with ancient buildings, which are of incalculable value. Many an example subsequently ruined by fire or mutilated by bad restoration would have been left unrecorded but for such timely illustrations. As an instance in point, allusion may be made to the publication in the *Building News* for 26th October, 1888, of the drawing signed by Sir Christopher Wren and dated 1719, showing the north transept façade of Westminster Abbey as it stood prior to Wren's alterations, which appear set out on a flap attached to this same document. Those who knew the front previous to the rebuilding commenced by Sir Gilbert Scott and finished by Pearson, will remember the condition in which Wren left the fabric. The newly appointed Surveyor to the Abbey, Mr. W. R. Lethaby [*F.*], has evidently found this reproduction extremely useful. The evidence thus afforded also led to the examination of some other drawings of less importance left by Wren, and now in the possession of Mr. Sidney Lee [*F.*], who lent this eminently interesting one to the *Building News*. These drafts are referred to at length in Mr. Lethaby's delightful book, lately published, on the

Craftsmen of the Abbey, and he has likewise reprinted some measured drawings of parts of the church, originally given in the same journal, since when material changes in the work represented have occurred.

As years come and go, the gigantic growth of serial accumulations is inevitable, and many ingenious subscribers have endeavoured to cope with this vast aggregation by devising indices and file compendiums of their own with a view to classification. Perhaps the index printed with a paper every half-year furnishes, after all, the best means for reference, and when bound in a small folio such indices are easy of access, and can be cheaply preserved. Nothing could be more hopelessly unmanageable than a lot of bundles of unbound parts of any periodical. It must be largely composed of inconsequential matter; but on the other hand these volumes do contain considerable information which cannot be found elsewhere. The great point is to keep the indices for ready application so as to make the information accessible.

I will now endeavour, in conclusion, to supply a brief epitome of the genesis of class journalism as connected with building interests. The earliest technical periodical issued in this country, so far as I am aware, was the *Builders' Magazine* in 1786; but it only ran through one volume. George Cook, who combined the trade of a builder with the calling of an architect, was the editor. John Carter, whose name is familiar in connection with two or three architectural books of that time, did the illustrations. It may be convenient to recall some of his contemporaries, such as Bartolozzi, Piranesi, Fred Nash, and Halfpenny, who preceded Pugin, Mackenzie, and Le Keux as architectural draughtsmen and illustrators of eminence. Other attempts at journalism of this kind may have been attempted during the early years of the last century, but I could find nothing in the British Museum. Among the pioneer papers of which we possess copies are the *Mechanic's Magazine*, published in 1823; and about the same date the *Mechanic's Weekly Journal* was issued, followed ten years later by the *Architectural Magazine*, founded by Loudon; and this was the first exclusively architectural paper. Its illustrations resemble those in Loudon's familiar *Encyclopædia of Farm, Cottage, and Villa Architecture*, which came out in 1830. Interior work was included in the magazine, and furniture was made a leading feature. The editor penned a very voluminous introduction, and a Mr. Trotman opened with an essay on the Elementary Forms of Classic Architecture, with examples. Mr. William Rose, in a more enterprising spirit, discoursed on the advantages of the use of slate and iron in combination for domestic furniture, accompanied by drawings. The Duke of York's Column is illustrated by plans, elevations, and a perspective taken from below the steps looking from the Park towards Carlton House Terrace as designed by Benjamin Wyatt. It is interesting to note that in this same magazine descriptions occur of attempts which were then being made to start architectural societies in London, so that journalism for architects preceded their foundation. One coterie commenced to meet in Exeter Hall in 1831, followed by an association having for its object the "Study of Architecture and Archæology," while a third society existed primarily for the purpose of social dinners in a sort of professional "free and easy" or "small and early." As an outcome of these assemblies the Royal Institute of British Architects was founded in 1834. About thirteen years after that date the then rising generation of architects met in Lyon's Inn Hall, St. Mary-le-Strand, and constituted the Architectural Association.

The earliest weekly professional paper was called the *Civil Engineer and Architect's Journal*. It came out in 1837 from an address in King Street, Westminster, the price being 6*d*. Its get-up resembled a mechanic's print, with very sparse illustrations and a weakness for bridges as a stock subject. In 1840 a new periodical called the *Surveyor, Engineer, and Architect* appeared, and you will notice the inverse sequence adopted in its title. The price

was one shilling per month, giving lithographic illustrations devoted to plans and sections; and although the art department was of very secondary importance, the advance made was considerable over previous enterprises.

Alfred Bartholomew commenced the publication of *The Builder* in 1843, very much on the lines of Loudon's magazine, already alluded to, both as to shape and style. There were only a very few woodcut illustrations, devoted mainly to machinery and small buildings such as lodges and cottages, with occasional scraps of old detail drawn in the poor manner of the period. Its price was 3*d.* per week. The *Artizan* was started the same year, and in 1844 Weale's *Quarterly Papers* were begun. Another periodical of this period was the *Architect and Building Operative*, which had only a short career under an altered title, the *Architect and Building Gazette*. This serial was a considerably improved kind of publication, far superior to any other of its class produced prior to 1849. Jobbins engraved the full-page plates, which fact alone ensured distinction, and evidently the editor was an enterprising individual, for in 1850 he published a large folded lithograph plate of Bridgwater House by Charles Barry. The second volume exceeded the merit of the first, and the published price was 4*d.* a week. The Great Exhibition of 1851 made things hum, and amidst all the excitement of wild-cat enterprise a five-shilling *Architectural Quarterly Review* blossomed into being, with quite a literary character about it, precisely worthy of so ambitious a venture, and designed to treat of most matters appertaining to the art and science of architecture. A fulsome introduction leisurely advocating the value of criticism and insisting on professional culture will be found among its contents. Also an editorial comment appeared on the unfairness of the competition for the exhibition building, just then a burning question. Reviews appear of the contemporary new books on mediæval architecture by Parker and Edmund Sharpe. A quarterly list of buildings in progress is printed at length. The *Building News* issued its first number in 1855 at its present price of 4*d.* The title at first was the *Land and Building News*, the office being in Old Boswell Court, Temple, St. Clement's, W.C., in which parish the journal continues to be published. In 1872 a departure of a notable kind was inaugurated by Mr. Passmore Edwards, and the *Building News* assumed the lead as the pioneer of a better form of architectural illustration. Years prior to that this paper introduced "galvano-zincography" as a novelty, the first sheet so printed being a very creditable view of Menville Church Doorway, Alsace. The process blocks, now so universally employed, were thus forecasted. The *Architect*, under the editorship of the genial late Professor Roger Smith, was produced first in 1869. The same shape and type and style of heading used by its long since defunct precursor of the same name were adopted, but its plates were few in number. The *British Architect* came out first in Manchester in 1874 with the avowed object of localising the venture as representing the architects of the Midlands; but it was not long before the publishing office migrated to London, where the paper is now also printed. The *Building World* and the *Builder's Weekly Reporter* may be mentioned, and the birth of the *Builder's Journal* twelve years since has to be recorded. The only London monthly magazine in this connection is the *Architectural Review*, now issued at a shilling. The *Journal of the Royal Institute of British Architects*, formerly called the *Transactions*, was begun in 1836. Its circulation is confined to the members, giving illustrated official reports of the proceedings of that body and its Allied Societies. The Architectural Association started its own paper in 1887, giving it the name of *A. A. Notes*, and the junior members, under the direction of an informal committee, have lately produced an intermittent comic print, entitled the *Purple Patch*. The Society of Architects also has a small official journal for its members entitled the *Architects' Magazine*. The *Irish Builder*, continued since 1870 in Dublin, is concerned with local affairs chiefly, and

otherwise follows the lines of its London contemporaries. The *Architectural Association Sketch Book* commenced in 1867, and still continues in folio form. It can scarcely be overestimated for the use of students. Already a brief allusion has been made to the international architectural journals and art magazines, of which a list is attached to this Paper. I have been at some pains to make this bibliography as complete as possible, with which end I submitted my catalogue to Messrs. Williams & Norgate, the foreign booksellers, who very kindly augmented the list with further particulars, giving also the London prices in the majority of cases, which will be useful. I am indebted also to the Librarian of the Institute, Mr. Rudolf Dircks, for reading over the list and for generously giving me the advantage of his special knowledge.

On the eve of my reading this lecture, it is an interesting coincidence to see a statement appearing in the Press to the effect that next June it is intended to hold an international exhibition of professional journals at Copenhagen, organised by a Danish association. The proposal is described as being of a somewhat novel character. It may be that the correspondence carried on during the past three months to obtain specimens and particulars of periodicals for our collection to-day has suggested the larger enterprise alluded to.

With regard to these Continental publications it has to be noted that the strict rule of annual subscription mostly obtains, and under this *régime* individual copies are not supplied to non-subscribers. In England and in America readers have the option of purchasing any particular number or part of the periodicals they may fancy. This no doubt is a great advantage to the public, but the publisher has to determine the limit of his editions by the average demand; consequently any issue which happens to prove specially popular speedily runs out of print. Other numbers less in demand lapse into "waste," which results in a loss to the proprietors, besides being the indirect occasion of loss to the readers, and for this reason the output on every periodical necessarily is calculated upon a provision as near as may be to cover the depreciation inevitably accruing under such a system. On the other hand, when the edition of a serial is defined by a regular number of annual subscribers, as happens on the Continental plan, this loss is obviated, leaving more available capital expenditure on the improvement of the publication itself. The conduct of any journalistic enterprise obviously must be based upon commercial considerations, unless, of course, the publication is run to further the particular views or ulterior aims of the proprietor. This is not likely to apply to the architectural Press, which, like any other business enterprise, is founded on the principles of supply and demand; but there is this to be said, that those who really value the paper which represents their interests would do well to remember how this aspect of the matter concerns the reader as well as the proprietors—at least to this extent, because success in furthering the ends for which both the architect and the architectural journalist are working must largely depend upon the co-operation of the subscribers to these periodicals, not only by contributing to their pages, and as correspondents, giving early information of matters of general interest, but by regularly taking in their papers. I make no apology for thus coming to so conclusive a point which otherwise might not occur to you. Class journals do not appeal to the public in the first instance, though their opinions are constantly quoted in the popular newspapers, thus materially assisting the aims and interests of the community which the architectural journals more immediately represent; and it is primarily on their own constituents that the professional periodicals must rely for support.

It may be possible still for a limited set of individuals to ignore obligations both to their professional societies and professional Press. Of late years this attitude has happily given way largely in favour of a better and more liberal recognition of *esprit de corps*; and though a few Ishmaels will always exist, no permanent place of honour is the heritage in the republic

of art, either as the privilege of the *noblesse*, or as due to mere monetary affluence; indeed, though these are undoubted social gains, they are in themselves not conducive to great artistic attainment, and distinctly tend to cripple individual effort and self-sacrifice, without which nothing really distinctive is ever to be accomplished. Religion is more than ethics, and architecture is more than science—it is an art, the handmaid of the Divine.

List of American, Colonial, and Foreign Architectural Periodicals, with their Terms of Subscription in England.

American.	Per annum. Post free. £	s.	d.
American Architect and Building News. Weekly International Edition (New York)	3	15	0
American Building Association News. Monthly (Cincinnati)	0	7	0
American Carpenter and Builder. Monthly (Chicago)	0	10	0
American Homes and Gardens. Monthly (New York)	1	0	0
Architects' and Builders' Magazine. Monthly (New York)	0	15	0
Architect and Engineer of California. Monthly (San Francisco)	0	10	0
Architectural Record. Monthly (New York)	0	18	0
Architectural Review. Monthly (Boston)	1	10	0
Architecture. Monthly (New York)	1	10	0
Architecture and Building. Weekly (New York)			
Brickbuilder (The). Monthly (Boston)	1	10	0
Bulletin of the American Institute of Architects. Quarterly (Washington)			
Carpentry and Building. Monthly (New York)	0	7	0
Cement and Engineering News. Monthly (Chicago)	0	12	0
Construction. Weekly (Alleghany, Pa.)			
Drainage Journal. Monthly (Indianapolis)	0	7	0
House and Garden. Monthly (Philadelphia)	0	17	0
House Beautiful. Monthly (Chicago)	0	12	0
Inland Architect. Monthly (Chicago)	2	12	0
Inland Architect and New Record. Monthly (Chicago)	1	6	0
Do. (Photo Ed.) (Chicago)	2	6	0
International Studio. Monthly (New York)	1	10	0
National Builder. Monthly (New York)	0	12	0
Ohio Architect and Builder. Monthly (Cleveland)	0	6	0
Southern Architect and Building News. Monthly (San Francisco)	0	10	0
Western Architect and Builder. Weekly (Cincinnati)	1	0	0
Do. Monthly (Cincinnati)	0	12	0
Western Architect. Monthly (Minneapolis, Minn.)	1	10	0
Woodcraft. Monthly (New York)	0	10	0
Belgian.			
Émulation (L'). Monthly (Brussels)	1	15	0
Colonial.			
South African Architect, Engineer, and Surveyor's Journal (Cape Town)	0	11	6
Art and Architecture. Monthly (Sydney)	0	16	0
Canadian (The) Architect and Builder. Monthly (Toronto)	1	0	0
Progress (with Architecture and Building Supplement). Monthly (Wellington, New Zealand)	0	8	0

Dutch.	Per annum. Post free. £	s.	d
Afbeeldingen van Oude			
Architect (De). 6 parts (Haarlem)	1	2	0
Architectura. Weekly (Amsterdam)	1	1	0
Bestaande Gebouwen. Annual (Amsterdam)	0	4	0
Bouwkundig Weekblad. (Amsterdam)	1	15	0
Bouwkundig Tijdschrift. Quarterly	0	4	0
Bouwwereld (De). Weekly (Amsterdam)	1	2	0
French.			
Ami (L') des Monuments et des Arts. (Bi-monthly)	1	1	0
Architecte (L'). Monthly (Paris)	2	5	0
Architecture (L'). Weekly (Paris)	1	6	0
Architecture (L'), et la Construction dans le Nord. Monthly (Lille)	1	10	0
Architecture (D'), Revue mensuelle de l'Art Architectural (Paris)			
Arts dans la Construction Parisienne. Monthly (Paris)	1	4	0
Bâtiment. Bi-weekly (Paris)	1	2	0
Bulletin de l'Association Provinciale des Architectes Français. Monthly (Rouen)			
Concours publics d'Architecture. Monthly (Paris)	1	10	0
Construction Moderne. Weekly (Paris)	1	10	0
Cottage. Monthly (Paris)	0	10	0
Décoration Ancienne et Moderne. Monthly (Paris)	1	6	0
Documents d'Architecture Moderne. Monthly (Paris)	1	6	0
Entreprise. Bi-weekly (Paris)	1	6	0
Gazette des Beaux-Arts. Monthly (Paris)	3	8	0
Génie Colonial. Monthly (Paris)	0	14	0
Matériaux et Documents d'Architecture. Monthly (Paris)	0	15	0
Moniteur du Dessin, de l'Architecture et des Beaux-Arts (Paris)	0	6	0
Monographe des Bâtiments Modernes. Monthly (Paris)	0	15	0
Nouvelles Annales de la Construction (Paris)	0	17	0
Petits Edifices Historiques. Monthly (Paris)	1	0	0
Revue Générale de la Construction (Paris)	0	12	0
German and Austrian.			
Architekt (Der). Monthly (Vienna)	1	6	0
Architectonische Rundschau. Monthly (Stuttgart)	1	4	0
Architektur der alten und neuen Zeit. Monthly (Berlin)	1	10	0
Architektur des 20. Jahrhunderts. Zeitschrift fur mod. Baukunst. Quarterly (Berlin)	2	2	0
Architektur-Konkurrenzen. Monthly	0	18	0
Architektur-Studien. (Munich.) Per part	0	3	0
Bauformen (Moderne). Monthly (Stuttgart)	1	10	0
Baugewerbe (Das). Weekly (Berlin)	0	12	0

German and Austrian (*continued*).	Per annum. Post free. £	s.	d.
Baugewerkszeitung. 2-weekly (Berlin)	1	5	0
Bauhutte (Deutsche). Weekly (Hanover)	0	15	0
Bauindustrie-Zeitung (Wiener). Weekly (Vienna)	1	15	0
Bauingenieur-Zeitung. Fortnightly (Berlin)	0	12	0
Baumaterialienkunde. Fortnightly (Karlsruhe)	1	0	0
Baumeister (Der). Monthly (Munich)	1	10	0
Bautechniker (Der). Weekly (Vienna)	1	2	0
Bauzeichner (Der). Weekly (Lubeck)	1	0	0
Bauzeitung (Allgem.). Quarterly (Vienna)	1	2	0
Bauzeitung (Deutsche). Twice weekly (Berlin)	1	10	0
Bauzeitung (Leipziger). Weekly (Leipzig)	0	12	0
Bauzeitung (Schweizer). Weekly (Zurich)	1	8	0
Bauzeitung für Württemberg, Baden, Hessen, Elsass-Lothringen. Weekly (Stuttgart)	0	15	0
Berliner Architekturwelt. Monthly (Berlin)	1	5	0
Blatter fur Architektur und Kunsthandwerk. Monthly (Berlin)	1	10	0
Denkmalpflege. 16 numbers (Berlin)	0	12	0
Entwurfe. *Annual*	0	6	0
Formenschatz (Der). Monthly (Munich)	0	18	0
Hohewarte (Leipzig)			
Landhaus (Das). Illustrated. Monthly (Wiesbaden)	0	15	0
Landhaus (Das Deutsche). Monthly (Charlottenburg)	1	5	0
Neubauten. Monthly	0	15	0
Stadtebau (Der). Monthly (Berlin)	1	4	0
Wochenschrift des Architektenvereins zu Berlin. Weekly (Berlin)	0	15	0
Wochenschrift (Oesterreich.) fur den öffentlichen Baudienst. Weekly (Vienna)	1	5	0
Zeitschrift des Oesterreichischen Ingenieur- und Architekten-Vereines, v. v. Popp. Weekly (Vienna)	1	12	0
Zeitschrift fur Architektur- und Ingenieurwesen. 6 parts in a year. (Wiesbaden)	1	5	0
Zeitschrift fur Bauwesen (with atlas of plates, folio) (Berlin)	2	5	0

German and Austrian (*continued*).	Per annum. Post free. £	s.	d.
Zeitschrift für Christliche Kunst. Monthly (Dusseldorf)	0	15	0
Zentralblatt fur d. deutsche Baugewerbe. Weekly (Berlin)	0	15	0
Zentralblatt d. Bauverwaltung. 104 numbers (Berlin)	1	4	0
Hungarian.			
A Maggar Mernok-es-Epitesz-Egylet. Heti Ertisiotöje (Budapest)			
India.			
Indian Engineering. Weekly (Calcutta). (Illustrating buildings; the only journal of its kind in India)	2	10	0
Italian.			
Architettura (L'). (Turin)	1	10	0
Bollettino della Società degli Ingegneri e degli Architetti Italiani. Weekly (Rome)			
Memorie d' un Architetto. Monthly	0	8	0
Japanese.			
Journal of Architecture of Japan. (Tokio, Japan)			
Russian.			
Journal de la Société Impériale des Architectes (St. Petersburg)	2	10	0
Zodtchy. Monthly (St. Petersburg)	2	10	0
Spanish.			
Arte (El) y la Ciencia. (Mexico)	1	10	0
Gaceta de Obras Públicas. Weekly (Madrid)			
Swedish and Norwegian.			
Teknisk Ugeblad. (Christiania)	0	10	0
Teknisk Tidskrift			

These periodicals can be supplied by Messrs. Williams & Norgate, 14 Henrietta Street, Covent Garden, W.C.

REPORT OF THE COUNCIL ON THE RESOLUTIONS REGARDING THE QUESTION OF REGISTRATION PASSED 3RD APRIL 1906.

Presented to the General Body at the Meeting of the 4th March 1907 and adopted, subject to the omission of Clause (I.) Section IV.

TO THE ROYAL INSTITUTE OF BRITISH ARCHITECTS,—

SECTION I.

The Council have had under their consideration the Report and Recommendations of the Registration Committee adopted in principle at the General Meeting held 3rd April 1906 [*see page* 329], and have the honour to report as follows:—

SECTION II.

The following principles were laid down in that Report, and agreed to:—

Principle A.—That the Institute should endeavour to obtain Parliamentary recognition of its Membership.

Principle B.—That it be made compulsory after, say, 1912, that all Architects, before receiving the Diploma of Membership of the Institute, must have passed through a definite course of Architectural Education.

Principle C.—That a temporary class of Licentiates of the R.I.B.A. should be established.

Principle D.—That in future Fellows be elected—

From the class of Associates;
By the Council in special cases.

Principle E.—That disciplinary powers of the Institute should be increased, with power of appeal.

SECTION III.

The proposal that the name of the Institute should be changed to the Royal College of Architects was not favourably received by the majority.

SECTION IV.

In the application to Parliament for an Act, the following were suggested as the essential points to be urged and objects to be attained:—

(F.) To declare that it is in the public interest to enable the public to distinguish architects recognised as qualified by a competent authority from those not so recognised.

(G.) To extend the present chartered privileges of the R.I.B.A. making it the statutory authority for the education and examination of architects for admission to the Institute.

(H.) To legalise a Scale of Charges.

(I.) *To require public bodies to employ a professional member of the R.I.B.A.**

[N.B.—This Clause was struck out by resolution of the Meeting.]

SECTION V.

The Council have given careful consideration to all the principles above enumerated, and recommend that as a first step a Revised or Supplemental Charter should be applied for, embodying as many of the principles set forth in Section II. as possible, and that when this has been done an Act of Parliament should be applied for as soon as practicable. They now proceed to deal with each principle in detail.

Principle A.—*Parliamentary Recognition of Membership of R.I.B.A.*

This is explained by Section IV. above.

* This is not intended to disqualify public officials in the employ of public bodies at the time of the passing of the Act.

Principle B.—*Compulsory Architectural Training.*

(1) The Council recommend that effect shall be given to this principle by altering the Charter and By-laws so as to make this training a condition precedent to entering for the Final Examination qualifying for membership of the Institute, and legalise machinery for dealing with the subject from time to time, so as to get the advantage of experience.

Principle C.—*Licentiates.*

(2) It is intended that the period of entry into this class shall close twelve months after the date of the Revised or Supplemental Charter; after that date no person shall be admitted a Licentiate, and on the resignation or death of the last surviving Licentiate, the class shall cease to exist. This new temporary class of Licentiates shall be a non-corporate one—*i.e.* a class having no corporate rights in the property of the Institute, no authority to control its management, and paying a subscription for a specified consideration: that is to say, they shall have the use of the Institute premises, the receipt of the Institute publications, the privilege of using the initials L.R.I.B.A. and the privilege of being present at all meetings of the Institute, except Business Meetings, and taking part in the discussions on Papers read.

(3) Licentiates shall be persons elected by the Council within twelve months of the date of the Revised or Supplemental Charter who have attained the age of thirty years, and who at the date of their application for admission shall have been—(*a*) for at least five successive years engaged as principals in the practice of architecture; or (*b*) for not less than ten years engaged in the study or practice of Architecture to the satisfaction of the Council.

(4) The Council are also of opinion that a special examination might be established for Licentiates, enabling them to enter the Fellowship class should they become in due course eligible.

Principle D.—*Election of Fellows.*

(5) This is governed by a resolution of the Institute, 6th June 1904, as follows: "After the 31st December 1906 (extended by Resolution of the Royal Institute at the General Meeting of the 4th December 1906 to the 31st December 1907) every person desiring to be admitted a Fellow shall be required to have passed the examination or examinations qualifying him as an Associate, or shall be elected from the ranks of the Associates. But in special cases the Council* by votes of three-fourths of such members of the Council as are present and voting at a meeting of the Council, shall have power to dispense with such examination or examinations."

(6) The Fellowship is thus generally to be open only to Associates, or those who have qualified for admission as Associates; but the Council recommend that it shall be also open to Licentiates under certain conditions. (See paragraph 4, Principle C, of the present Section.)

Principle E.—*Disciplinary Powers.*

(7) The Council propose to increase the disciplinary powers of the Institute by obtaining authority to publish in the public Press the fact of the expulsion of a member of any class.

SECTION VI.

With regard to Section III. above, the Council do not recommend that the name "The Royal Institute of British Architects" should be changed.

SECTION VII.

Although such considerations are for the present outside the scope of the reference to the Council, they yet venture to suggest that the alteration of the Charter and By-laws in

* The Council recommend that at least sixteen members of Council should be present.

accordance with the above recommendations might be a convenient opportunity for making other alterations, such as:

(8) The modification of the By-law regulating the formal presentation of members at a General Meeting.

(9) The reorganisation of the machinery for filling the office of President or Honorary Secretary in the event of a vacancy arising from death or resignation during any Session.

(10) The abolition of the power given to the Council to elect direct to the Fellowship the President or President-Elect of an Allied Society.

(11) The consideration of the representation of the Allied Societies on the Council.

By order of the Council,

25th February 1907. W. J. LOCKE, *Secretary.*

The following is reprinted for the convenience of members:—

REPORT OF THE REGISTRATION COMMITTEE.

Adopted in principle by the General Body at the Meeting of the 3rd April 1906.

To the Royal Institute of British Architects,—

The Committee have the honour to report that a Sub-Committee have held fifteen sittings, and have heard the evidence and views of twenty-four Architects from various parts of England, Ireland, and Scotland.

As a result of their deliberations, the Committee are impressed with the desire of many Architects (especially those who are practising in the provinces) that a legal status should be given to duly qualified practitioners in Architecture, and they are of opinion that this can be met by applying to Parliament for a legal Diploma of Membership of the Royal Institute of British Architects, it being made compulsory that after (say) 1912 all Architects, before receiving this Diploma, must have passed through a definite course of Architectural Education in a recognised School.

The Committee believe that in a short time if this were done the holding of such a Diploma would prove to be of professional value to all practising Architects.

It is generally admitted by the advocates of the present draft Bill that the only chance of getting Parliamentary powers to carry out such a penalising proposal as the registration of the title of Architect would be: (1) by placing the registration in the hands of a Board partly composed of members outside the Institute, though it is suggested that the Institute should be largely represented upon it; and (2) by exempting from its operations all the members of the Institutions of Surveyors and Civil Engineers. It is also generally admitted that the standard for admission to such Registration would have to be a low one.

The Committee believe that unless the profession can approach Parliament with approximate unanimity there is little chance, in the present state of public business in the House of Commons, of getting any contentious measure passed.

The Committee therefore recommend that at present the Institute should confine itself to attempting to obtain Parliamentary recognition for its membership, an attempt which, they believe, would meet with very general support. Such State recognition would encourage education and raise the qualifications of Architects, and would at the same time avoid the temporary necessity of granting a statutory title to unqualified men.

The Committee recommend that the title of the Institute be changed to that of "The Royal College of Architects," and that a *temporary* third class of professional members be established.

As an Appendix to this Report the Committee submit an outline of suggestions to give effect to the recommendations herein contained.

The Committee beg leave to state that this Report has been adopted by them unanimously at a meeting on the 20th March 1906, at which the following members were present:—Edwin T. Hall (*Vice-President*), in the Chair, R. S. Balfour, W. H. Atkin Berry, A. W. Brewill (Nottingham), J. J. Burnet (Glasgow), J. T. Cackett (Newcastle), W. D. Caröe, T. E. Collcutt, A. W. S. Cross, E. Guy Dawber, E. M. Gibbs (Sheffield), J. S. Gibson, W. J. Gilliland (Belfast), Alexander Graham (*Hon. Secretary*), E. A. Gruning, G. H. Oatley (Bristol), George Hubbard, H. V. Lanchester, A. N. Prentice, G. H. Fellowes-Prynne, John W. Simpson, John Slater, Leonard Stokes (*Vice-President*), C. Harrison Townsend, Paul Waterhouse, Sir Aston Webb, Edmund Woodthorpe.

The President, whose absence through illness was deeply regretted, together with Mr. H. T. Hare, *Vice-President*, and Mr. J. A. Gotch, who were unavoidably prevented from attending, have desired their names to be added to those appearing.

By order of the Registration Committee,

20th March 1906. W. J. LOCKE, *Secretary*.

APPENDIX TO THE REPORT.

Heads of Scheme for raising Qualification of Architects.

1. Revise the Charter, and
2. Submit a Bill to Parliament.

Charter Revision.

(*a*) Change name to Royal College of Architects, and the affixes F.R.I.B.A. and A.R.I.B.A. to F.R.C.A. and A.R.C.A.

(*b*) Substantive provision—In future Fellows to be elected—

(1) after 1906 from those who have passed the Associates' Examination; or

(2) by Council in special cases.

(*c*) To authorise the constitution of a scheme of education to be compulsory on all candidates coming up for examination after 1912.

(*d*) Create new subscribing class of temporary duration, without the power of voting, to be called Licentiates (L.R.C.A.), at a low fee, to admit *bona fide* Architects who are not eligible for F.R.C.A. or A.R.C.A.

All members of Allied or other Societies of Architects, found eligible by the Council of the R.C.A., to be admitted as Licentiates without election. Admission to class to be closed within a year after the passing of the Act.

All to sign declaration and obligation as to Professional Conduct.

(*e*) F., A., and L. to be defined as Professional Members.

(*f*) Disciplinary powers to be increased with power of appeal.

Bill to Parliament.

Declare it is in public interest that Employers should be enabled to distinguish between Architects recognised as qualified by a competent authority and those not so recognised.

Enact—

(*a*) Following the precedent of the Law Society, the Royal College of Architects (already recognised by Parliament as authority for granting certificates required by District Surveyors before they can receive appointments) be empowered and required, by its Council, to institute and supervise Education and Examination of Architects for admission to the R.C.A. and to confer the titles F.R.C.A. and A.R.C.A.

Confirming all such present titles.

(*b*) Give statutory force to present Charters.

(*c*) Legalise Scale of Charges, to be approved by Privy Council, for all Professional Members of R.C.A.

(*d*) Municipalities and other Public Bodies acting in fiduciary position shall on the erection or alteration of buildings in cities or towns employ a Professional Member of the R.C.A.

(*N.B.*—It is a question if clause (*d*) should be introduced; but it is likely to commend itself to Parliament, and it follows a policy long supported by the Council and by a large number of the members of the Institute. At the worst it could be struck out of the Bill.)

RESOLUTIONS CARRIED AT THE GENERAL MEETING HELD 3RD APRIL 1906.

(1) Resolved, unanimously, That the general principles of the Report and Recommendations of the Registration Committee, dated 20th March 1906, be adopted, and the details referred to the Council for further consideration and report to the General Body.

(2) Resolved, unanimously, That the Council be requested to take the necessary steps, when the scheme in accordance with the first Resolution is perfected and approved by the General Body, to apply to His Majesty the King for a Revised or Supplemental Charter, and to prepare and present a Bill to Parliament.

DISCUSSION ON THE FOREGOING REPORT.

Mr. Edwin T. Hall, *Vice-President*, in the Chair.

The Chairman, in formally presenting to the Meeting the foregoing Report, a copy of which had already been sent to every member residing in the United Kingdom, said he proposed to put the Report to the Meeting section by section. Sections I., II., and III. were merely a report of what had been laid down by a resolution of the Institute. Section IV. was the first section for consideration, and he would move that it be adopted, if the Meeting were of opinion that it was in accordance with the resolutions passed at the meeting of the 3rd April last year. He should mention that a copy of the Report had been sent to every Allied Society in the Kingdom, and that with the exception of very trifling details the Allied Societies had approved it. Their suggestions, all relating to very small matters, had been carefully considered by the Council before the adoption of the Report, and the Council were able to say that they had the assent of all the Allied Societies to the scheme outlined therein.

Mr. G. A. T. Middleton [*A.*] asked if clauses (F), (G), (H), and (I) of Section IV. could be put separately, as he had two or three amendments to propose.

The Chairman: If it is the pleasure of the Meeting we will take them separately.

Mr. John Slater [*F.*]: Are we to consider Sections I., II., and III. as passed?

The Chairman: Sections I., II., and III. are merely records of principles approved by resolutions of the Institute passed on the 3rd April last; but to put the matter in order, I will ask the Meeting to signify their approval of these sections as a record of what has occurred.

Upon a show of hands this part of the Report was agreed to. Clause (F) of Section IV. was also agreed to.

The Chairman having moved clause (G) of Section IV.,

Mr. Middleton moved that the clause be amended by substituting at the end the words "the profession of architecture" for the word "Institute," so as to read: "To extend the present chartered privileges of the R.I.B.A., making it the statutory authority for the education and examination of architects for admission to the profession of architecture." It would be remembered, he said, that on the 11th June last year the Institute passed the following resolution: "That the Council be instructed to consider the practicability of including all architects practising in the United Kingdom within the scope of the Institute." The word "practicability" was used, not "advisability," which would mean taking for granted. The principle of advisability, therefore, was fully accepted as the general principle of this Report, and if they altered the clause as he proposed, they would give to it the authority of the Institute. The whole point was to improve the position of architecture. By strengthening the Institute—by insisting that every practising architect in the future should be a member of the Institute in some branch or other—they hoped to strengthen the profession. When he moved last June the resolution he had just quoted, he put forward a scheme which was very similar to that now before them. He had then suggested that the Fellows and Associates should become one body, and that that body should include the various members of the Allied Societies and the Society of Architects; that there should be also a class of Licentiates, and that in future the practice of architecture should be confined to those who were either temporary Licentiates or full members of the Institute. He was willing, however, to accept the position taken up in the Report that the classes of Fellows and Associates should remain as at present, and that there should be a temporary body of Licentiates who would, of course, include all who at the time of the passing of the contemplated Bill had the right to practise as architects. That was a matter he would refer to again presently. For the moment he proposed the amendment of the clause in the manner indicated, thereby greatly strengthening the Institute, greatly strengthening the measure before them, and including in the Institute the whole of the architects of England in the future.

Mr. Percy B. Tubbs [*F.*] seconded the amendment.

Mr. A. W. S. Cross, M.A. [*F.*], said that, much as he should like to support the amendment, he was unable to do so inasmuch as, rightly or wrongly, they had accepted the compromise proposed by Sir Aston Webb, and must take the consequences.

The Chairman said that if the clause was altered as proposed, they would lose all control over architects unless they joined the Institute. One of the great features advocated in that room was that they should exercise disciplinary powers. If a non-member was guilty of a dishonourable act, the Institute had no control over him whatever; but if he was a member of the Institute he could be punished. He thought the change very undesirable.

Mr. J. J. Burnet, A.R.S.A. [*F.*], said they had passed in Section II. a clause empowering them to get an Act of Parliament. He must candidly admit he had sat still with considerable difficulty while that was passed. He was antagonistic to this Parliamentary matter altogether, but this was a moment of compromise; they were to stand by one another for the mutual benefit of the profession, and, above all, for the mutual benefit of architecture—not that he thought there was really any difference. But, having passed that Section II., they must not forget that they were professional men, and the most valuable asset they had was their sound judgment. It would never do for them to ask Parliament for things which Parliament could never grant. He had no doubt whatever that Mr. Middleton was actuated by the highest motive of professional duty towards his professional brethren; but if his amendment meant anything at all, it meant that the profession was to be protected. But surely it was their proudest claim that architecture is not a profession, but is an art. Architects were artists. Could they quote a single instance in history where an artist had asked for any other protection than that he should have the right to work at his art? It surely was not necessary for them to ask for an Act of Parliament to shut out all people not educated on certain lines from practising architecture. They had only to look back a very short time to find architects who had done some of the grandest buildings who had never been educated as architects or submitted to a common curriculum under any circumstances He begged them not to seek this protection. They must give in to one another. He himself was not an old man, though he was obliged to confess he was not a young man; but he thought it was a very great responsibility for the elder men of the profession to take. They were going off on a new line altogether. Personally, he did not think this kind of protection would do any good. It would be far better to work and use their pencils and their pens and their tongues, and to manage to influence the public, as they were trying to influence them, in art. The public would, no doubt, employ the wrong

man again and again until they found out who was the right one; but no advice would force them to go to the right man, and no educational scheme on the part of the Institute would provide the public with an architect in the highest sense of the word. It would prevent their being the victims of incompetence possibly, as regards drawing, plans and construction, and all that science would do for them; but it would not provide them with an architect. The highest standard was the artistic one, and he desired very strongly, more emphatically than he was able to express, to put to them that it was a matter here of, at any rate, not showing small-mindedness in not admitting as artists that an artist will turn up without education, and that they must be prepared to receive that man as an artist at a moment's notice, as all artists had ever been. Therefore he asked them not to support Mr. Middleton's suggestion. He did so in all goodness of heart, feeling sure that Mr. Middleton had spoken from his heart, as he (the speaker) was speaking from his and endeavouring in his own weak way to warn them of the result of attempting to close the Royal Institute of British Architects. Let the Institute be a body of broad-minded men who feared nothing so long as they had educated themselves, not even defeat, so long as they were defeated by better men.

Mr. George Hubbard, F.S.A. [F.], said that a few years ago he should probably have supported Mr. Middleton's amendment, but after being engaged for the last three years at least upon this subject, he felt it would be unwise to do so. It would be to go back upon the whole work that had been done by their Committees, and he hoped the Meeting would pass the clause as it stood in the Report.

The amendment having been put from the Chair was defeated by a large majority. The clause as it stood in the Report was then put as the substantive motion and carried.

Mr. Owen Fleming [A.]: I am not quite clear, Sir, as to the meaning of "the statutory authority for the education." Would that affect the Architectural Association?

The Chairman: No, the principle laid down is that which was approved by the resolution of the Institute on the 3rd April last.

The Chairman then put to the Meeting clause (H). "To legalise a scale of charges."

Mr. Middleton: When this matter was before the Institute a year ago, I ventured to show that there was a great deal to be said against this scale of charges being legalised.

The Chairman: The proposal was carried by the Resolution of the 3rd April last. This is merely to give effect to it.

Mr. Middleton: But there is great objection to it, Sir; and it is before us now to discuss it.

The Chairman: One cannot go back upon the principle that was approved then.

Mr. Middleton: The general principle of the whole thing was approved, but I do not know that the detail was.

The Chairman: This cannot be a detail; in my recollection of that meeting, there was no resolution or suggestion moved that it should be omitted. It was considered one of the best things that could be done.

Mr. Middleton: I have very great objection to it, Sir, and I should like to be allowed to state my objection.

The Chairman: On page 4 of the document [see p. 330] you will see what was before you on that occasion. One of the things is: "legalise scale of charges to be approved by Privy Council for all professional members."

Mr. E. A. Jollye [A.] asked if, when a scale of charges was made legal, there would be some provision to make it a misdemeanour for an architect, a Fellow or an Associate, to carry out work at less than that scale of charges.

The Chairman: The actual wording of the Bill will be placed before members for their consideration; they will then be able to comment on the proposed provisions.

Mr. Middleton: I must say that I think it ought to be made a maximum and not a minimum.

The Chairman: That is a detail.

Mr. Horace T. Bonner [A.]: It would be better to withdraw it altogether, Sir. Parliament will never sanction a legalised scale of charges. It is true the lawyers have one, but they have such immense representation and so much power in Parliament that they pretty well carried their own Act. Parliament will never listen to a suggestion of the kind nowadays.

The Chairman: That may be. Still, we can but try. The Institute has affirmed the fact that we should try. It is too late now to raise the question that we shall not.

Clause (H) was then put from the Chair, and declared carried.

The Chairman having put the next clause: "(I) To require public bodies to employ a professional member of the R.I.B.A." * "This is not intended to disqualify public officials in the employ of public bodies at the time of the passing of the Act."—

Mr. Middleton moved to add the words "for purely architectural work." He did not know whether it was realised how very strong the feeling of the Engineers and Surveyors was upon this matter. The Incorporated Association of Municipal and County Engineers had recently been moving every local authority throughout the Kingdom to oppose the Society of Architects' Registration Bill on this particular point. Their objection, as he understood, was not to the architects undertaking work which was really architectural, but to the wording, which would prevent municipal officers from doing such work as dust destructors and tramway sheds. It was very difficult to so word it that the one would be included and the other not. He asked, therefore, that the words "for purely architectural work" should be added so as to make it clear.

Mr. R. J. Angel, M.Inst.C.E. [A.]: I agree, Sir, with Mr. Middleton, and I wish to inform the Council and members present that not only are the societies which Mr. Middleton mentioned opposing this Bill, but nearly every municipal authority in the country is opposing Section 28 of the Society of Architects Bill.

Mr. K. Gammell [A.] asked for authority for this statement.

Mr. Angel: Nearly every municipal authority in the Kingdom is opposing it. I am a member of a municipal authority myself, and I am in a position to know it. It is not my business to give the name of my authority here to-night; that will be made clear when the Bill comes before Parliament. But rather than ride for a fall, I suggest that the judicious thing to do is to accept the addition of the words Mr. Middleton proposes.

Sir Aston Webb, R.A. [F.], said he thought the proposals before them carried out extremely well the Report of the Registration Committee of the 3rd April 1906, and he sincerely hoped the Report would be passed that evening, and that it would put an end to this long agitation and discussion on the subject. With regard to clause (I) of Section 4, of course he was in sympathy with the proposal. But if this clause were allowed to stand, he agreed with Mr. Angel that it would wreck the whole of their proposals, and they would only have wasted their time. For a year or two after the Bill had been prepared at great expense and brought before Parliament, they would not hear much; but when the second reading came on, it would be voted out by a large majority. It was obvious that in a Bill of this sort they ought not to include any important item which was going to bind other public bodies and not their own. The idea of this compromise had been from the beginning that they should make rules to

bind themselves, and that they should ask Parliament to strengthen them as members of the Institute. As long as they did that, he thought they were on excellent ground and there was a prospect of getting the Bill carried without serious opposition; but should they attempt in a Bill of this sort to saddle a condition on public bodies, it seemed to him there was not the least chance of carrying it through. Every public body in every town would instruct their Member to oppose the Bill on this ground. The Bill, as he read it, would prevent, for instance, such a public body as the Office of Woods employing Mr. Norman Shaw to carry out the Quadrant in Regent Street, which would, he thought, be a public calamity. They could lay down laws for the regulation of their own body, and if they did that the Institute would be strengthened. In time, he believed, all architects would become members of the Institute; and strong as it was at the present time, he believed it would become much stronger. He himself should like to see this clause left out, and that particular matter fought out as an independent thing. He sympathised very much with it, but it should not be mixed up with this general administration of the Institute's affairs. Let them look after their own affairs, and lay down their own laws. That was what seemed to him, if he might say so, to be the proper, logical, and wise way for the Institute to work.

THE CHAIRMAN: Do I understand, Sir Aston, that you move the omission of the clause?

SIR ASTON WEBB: I did not mean, Sir, to move it, but I am quite willing to do so. Otherwise I am entirely in favour of the Report as it stands.

MR. ERNEST J. DIXON [*A.*] seconded the proposition.

MR. HUBBARD: Is not a Bill of this nature in Parliament fought clause by clause, and would not this clause come up and stand or fall on its own merits?

SIR ASTON WEBB: In Committee. But it will fall, I am afraid, on the second reading on the general principle. That is where the struggle comes, and obviously it will be thrown out.

MR. HUBBARD: Would it not be thrown out in Committee before it comes to second reading?

THE CHAIRMAN: The procedure is that a Bill comes up for second reading, and if it passes the second reading then it is referred to a Committee; but it may never get a second reading. If it is blocked, it does not get a second reading; but that is a risk every private Bill has to go through.

MR. ANGEL said they would find a very strong opposition on the part of the municipal authorities throughout the country to oppose this clause (I), and the opposition would be so strong that it would have effect. It was very undesirable to risk the whole scheme for the sake of one clause, and it would be judicious to omit it.

MR. BONNER spoke against the clause, and said it would be much better to drop it altogether, for it would never be accepted by Parliament. It was sufficient for them to have power to control their own members; it stood to reason they would never be granted power to dictate to public bodies as to whom they should employ.

MR. HENRY T. HARE [*F.*] said he had not heard anyone put the point in connection with this clause (I) in quite the way that it appealed to him. He agreed with Sir Aston Webb as to the difficulty of getting a Bill containing such a clause through Parliament, and he thought there was great doubt as to its becoming law. At the same time one of the principles, and one of the main principles, that lay at the back of the proposed Bill was that they should get if possible all, or practically all, reputable architects to become members of the Institute, and the idea of introducing a clause of this sort was to give them an additional inducement to become members by making it practically necessary for them to become members. Such a provision as this would not impose hardship on any public body, because all they had to do was to have as their permanent official a member of the Institute, and there would then be nothing in the Bill which would prevent them from employing their own official to carry out their work. That was his view of the case; and this provision was the only provision in the proposed Bill which would bring any pressure to bear upon the general body of architects to become members of the Institute.

MR. JOHN SLATER said he could not help thinking that Mr. Hare's remarks pointed to an exactly contrary conclusion. If the effect of the Bill was to induce most architects to become members of the Institute, it was certain that in a very short time no architects would remain outside. Then was it wise to put in a clause which, as had been said, would set against the Bill nearly all the municipal authorities, who had great Parliamentary strength at their back? Was it worth while for what would be only a temporary condition to put such a clause in? It would only be for a time that people would remain outside the Institute. After a few years they hoped there would be very few reputable practitioners who were not members of the Institute. It seemed to him, therefore, that what Mr. Hare had said went to show that it was not necessary for any material purpose to put the clause in, and he should strongly support Sir Aston Webb's proposal to omit it altogether.

MR. MAURICE B. ADAMS [*F.*] pointed out that the difficulty some members felt was that this Report was proposed by the Council, and surely this view of the subject must have been present to the Council. Personally he was in entire agreement with Sir Aston Webb and Mr. Slater. But Mr. Slater was a member of the Council. Why was this clause brought before them that evening, and then repudiated in a way by members of the Council? He entirely agreed with Sir Aston Webb. It was simply flying in the face of a difficulty which would be most disastrous to the Bill. It was, however, rather unfortunate that the Council should not be prepared to stand by the Report they had brought before the Meeting.

MR. BURNET said there seemed to him to be a certain humour about this clause. They would not have got even by their Act all the members of the profession in the Institute, and he thought it fair to presume that, with the efficient working of the Act for the education of architects, if there were men outside the Institute, they would have to be very strong men indeed. So he would propose to add to this clause, if it must remain in, "to require public bodies to employ a professional member of the Royal Institute of British Architec[illegible] possibility that there may be more [illegible] outside!" He wanted to support Sir Aston Webb principally on common-sense grounds. They were a professional body and their reputation was at stake. They need not apply for an Act of Parliament for anything that was not for the public good. Whenever the slightest personal interest came into any part of their application they might be perfectly certain that Parliament would not sanction it, and therefore he was anxious they should not be parties to a clause which reflected disadvantageously on their mental capacities.

MR. HUBBARD: The speakers against the clause are those who signed the Report. It is most extraordinary.

MR. SLATER explained that in the Report which Sir Aston Webb and himself had signed there was nothing whatever about this matter of municipal bodies employing an architect. This came in as Appendix *d*, with a note stating that "it is a question if the clause should be introduced." Members of the Council who disapproved of that were perfectly justified in signing the Report that was signed, because nothing whatever was said about it in the Report.

SIR ASTON WEBB: Mr. Slater quite explains it.

THE CHAIRMAN intimated that he thought the question

had now been sufficiently discussed; and the proposition being put to the vote, it was resolved by a large majority to strike out clause (I) from the Report.

Coming to Section V., the CHAIRMAN explained that Principle (A) had already been dealt with under Section IV.

Clause 1 of Principle (B), "Compulsory architectural training," was put to the vote and carried without discussion.

Principle (C), Clause 2, "Licentiates," being before the Meeting, Mr. MIDDLETON, quoting the opening part of the clause—viz., "It is intended that the period of entry into this class [that is, the Licentiates' class] shall close twelve months after the date of the Revised or Supplemental Charter"—went on to suggest that it should be "after the passing of the *Bill*" and not the Charter. It was presumable, he said, that a considerable number of Licentiates would not desire to enter when the Charter was passed, but would desire to be included in the Institute as soon as the Bill was passed and more definite advantages were given to members thereby, so that really the advantage of the Licentiate class would come in after the passing of the Bill. He therefore moved that the words "the Revised or Supplemental Charter" be omitted, and that the words "the passing of the Bill" be substituted.

THE CHAIRMAN said that this point had been very carefully considered by the Committee, and he was sure the Meeting would see the practical objection to the proposal. The Revised Charter, they hoped, could be got through at once. The Bill would depend upon the business of Parliament, and might take four or five years to get through. Therefore the result of Mr. Middleton's proposal would be, not that there should be a temporary class open for admission for a year, but open, say, for seven years, which would be contrary to anything contemplated in that room or by any of the Committees on the question. It was important to let it stand as printed.

Mr. MIDDLETON contended that it would be better for the class not to be open at all until the Bill was passed. Very few would come in, considering the slight privileges to be given to members and what was expected of them. It would be an absolute necessity to make it twelve months after the passing of the Bill if they were to induce men to come into the ranks of Licentiates.

THE CHAIRMAN said that if the amendment was proposed on the ground that it was better not to open the class at all than to open it for a year, it would hardly commend itself to the general feeling of the Institute. If the men in question desired to join at all, the sooner they did so the better for them. It was proposed that there should be an opportunity for them to come in within twelve months after the granting of the new Charter. They hoped it would lead to a large number coming in; they would have much more chance of getting the Bill passed if they had a large number of these men in. On all grounds it seemed desirable to keep to the Report.

The amendment failing for want of a seconder, Clause 2 was put from the Chair and carried.

The remaining clauses of Section V. were put to the Meeting separately and carried without dissent.

THE CHAIRMAN having read Section VI.—viz.: "The Council do not recommend that the name 'The Royal Institute of British Architects' should be changed,"

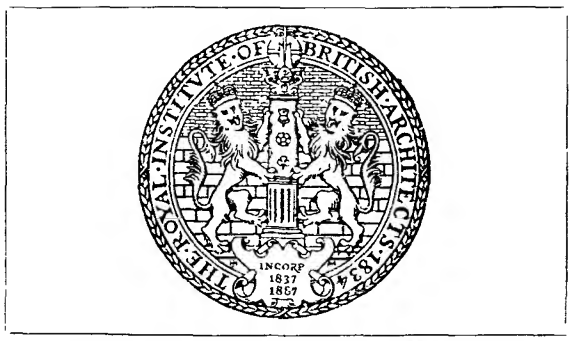
Mr. C. H. BRODIE [*F.*] asked if the word "British" could not be dropped. Theirs was the only Society with this designation. It was quite superfluous, for they must be "British."

THE CHAIRMAN said he thought it a distinguishing name, and that they ought to let it remain. They were proud of it.

Mr. Brodie's proposal meeting with no support, Section VI. was put from the Chair as drafted, and was carried unanimously.

THE CHAIRMAN, introducing Section VII., said it contained matters which were not strictly within the scope of the Report, but it was felt that while they were revising the Charter and By-laws it was expedient to amend certain defects or details in the present By-laws which seemed to require amendment. The matters referred to did not exhaust all that might be submitted later on, but the Council would like to have a general approval of the theory that the Charter and By-laws should be amended where necessary in other matters of detail. Such alterations would, of course, be submitted to the General Body for their approval.

The Meeting having signified assent, the Chairman put the Report as a whole amended by the omission of clause (I) of Section IV., and upon a show of hands the Report was declared carried without dissent.



9, Conduit Street, London, W., *9th March* 1907.

CHRONICLE.

The President.

Mr. Edwin T. Hall, *Vice-President*, expressed his regret at having to take the Chair at the Meeting last Monday, in consequence of the serious indisposition of the President. From inquiries made at the moment of going to press, we are glad to be able to state that the President is now slightly better.

The President's "At Home."

Some three hundred or more members responded to the President's invitation and were recipients of his hospitality at the "At Home" given in the rooms of the Institute on Monday, the 25th ult. For the information of new members it may be mentioned that these gatherings were initiated by Sir Aston Webb in the first year of his Presidency, and his successors in the Chair have periodically continued them. Judging from the cordiality that characterised this last "At Home," and the expressions of appreciation to be heard on every hand, these occasions seem to have lost for members none of their first freshness. Non-Metropolitan members, of whom a considerable number are always present, especially value the opportunity afforded them of meeting their London brethren under such agreeable conditions and exchanging *de vive voix* their views on the problems of the moment.

The President had provided for the entertainment of his guests an exhibition of drawings, photographs, plans, &c., arranged in three groups on the Library walls. One of the groups consisted of a recent acquisition to the Library—Professor Lanciani's exhaustive Plan of Ancient Rome, as designed from the results of the latest excavations. The plan is to a scale of 1 : 1000, and comprises forty-six sheets—the total dimensions being 230 square feet. The map was begun by Professor Lanciani in 1867 in the course of the excavations made by Napoleon III. among the ruins of the Palace of the Cæsars. Some idea of the labour involved may be judged from the fact that the notes put together by the distinguished author for the completion of the map numbered about 120,000. It is drawn in five colours, the colours serving to show either the date or the nature of the various subjects on the plan.

Another very interesting exhibit was a series of measured drawings by Mr. Ramsay Traquair [*A.*], together with a number of photographs, of Byzantine churches of Constantinople. Mr. Traquair states that the drawings illustrated the lesser churches of Constantinople, which must have numbered several hundreds at the time of the Turkish conquest. Only twenty-one are now remaining. The dates of their erection are in many cases very uncertain. The names which follow are given in approximately chronological order:

S. John the Baptist of the Studion, V. c.
SS. Sergius and Bacchus, VI. c.
S. Mary Diaconissa, VI. c. (?).
Church of the Monastery of Manuel, IX. c.
The Myrelaion, X.
S. Thekla, XI. c.
SS. Peter and Mark (?).
S. John the Baptist in Trullo (?).
Church of Christ in the Chora, XI., XIV.
Church of Christ Pantokrator, XII. c.
Church of Christ Pantepoptes.
S. Mary Pammakaristos, XIII.
S. Andrew in Krisei, XIII.
S. Mary Mouchliotissa, XIII.
S. Theodosia, XIII. (?).
S. Mary, Panachrantos, XIV.
Bogdan Serai (?).
Bala-Ban Aga Mesjedi (?).
Monaster Mesjedi (?).
Sanjakdar Mesjedi (?).
S. Theodore the Tiro (?).

The churches are for the most part planned about a high central dome, but show several distinct types. The Churches of Christ in the Chora and S. Mary Diaconissa still retain much of their original decoration in marble and mosaic. Many of the others are fast crumbling to ruin. The drawings and photographs are to be published by Professor A. van Millingen, of Constantinople, in a companion volume to his history of the Byzantine walls of the city.

By the kindness of the owner, Colonel W. L. Coke, of Alfreton, Derbyshire, the President was also able to show an exceedingly interesting collection of drawings, some of them dating back over three centuries—the work of Huntingdon Smythson, architect of Bolsover Castle, Derbyshire. A description of these drawings has been very kindly contributed by Mr. Maurice B. Adams and will appear in the next number of the Journal, with reproductions of some of the drawings.

The Business Meeting: Members' Questions.

Mr. Wm. Woodward [*F.*], in accordance with notice, at the Business Meeting last Monday, brought forward the following subjects—viz.,

(1) "The nature of the subjects to be brought before a Business Meeting"; (2) "The powers of the Council to represent the General Body."

Mr. WOODWARD, having been called upon by the Chairman, said he had to confess that the origin of the observations he was going to make was the feeling on his part that there was an increase in what he conceived to be the secretiveness of the Council of the Royal Institute of British Architects. That idea had been strengthened by what took place in that room on the occasion of the discussion on the question relating to the new County Hall. With regard to Business Meetings, he had looked carefully through the Charter and By-laws with the object of informing himself on the subject on which he was to address them; but nowhere could he find any regulation forbidding the presence of reporters at Business Meetings. The tendency of the age, he believed, was to abolish secretiveness, and to bring openly to light all subjects affecting the interests of public bodies. The Royal Institute of British Architects, as he read their constitution, was not a body only for the furtherance of the interests of the profession, but was for the general advancement of civil architecture, and therefore the more publicity was given to its proceedings the better for the public and the better for the profession of architecture. The By-laws laid down that there should be at least four Business Meetings in a year, and any questions relating to the property or the management of the Institute, or to any professional question, might be discussed thereat. He maintained, and he thought many present would agree with him, that on such a subject as the new County Hall discussed at their last Business Meeting, there could have been no reason why the reporters of the professional Press should not have been present. He was quite aware that if he desired to bring forward a special subject, he could do so after obtaining the signatures of twelve subscribing members to the requisition, but it was not always convenient to do so. He wished to ask the Council, after the observations which had fallen from the Chairman in the latter part of the discussion on the Charter Revision Report [p. 331], to take this into consideration first, and not to allocate so much as they had hitherto done to subjects at Business Meetings which affected the general interests of architects. He asked that the Council should for the future admit the reporters of the professional Press to every Business Meeting, unless there was something of a specially private nature to prevent it. With regard to his second question—viz., the powers of the Council to represent the General Body—the Council itself had very great powers, and he thought that if power was given to a committee or other body, one ought to be able to rely upon that body exercising its power in a proper manner. He did not say for one moment that the Council had not exercised its power in a proper manner, but he felt, particularly with regard to the County Hall Competition, that there had been a secretiveness about the proceedings of the Council connected with that business which should not have occurred. If the Council had only published in the JOURNAL of the Institute the letter which they addressed to Spring Gardens, he believed they would have saved themselves from animadversions which he felt sure they would be the first to desire to cease. There could be no doubt that if a communication went from the Council to any public body, that public body assumed that it came with the full assent of the Royal Institute of British Architects, and that it represented the consensus of opinion of the 2,000 members of the Institute. It of course did nothing of the sort. And, therefore, he contended that the Council should be a little more communicative to the General Body, and if they proposed to send a communication to a public body, and they desired that that public body should receive that communication with the assent of the General Body, they should consult the General Body before sending it. He suggested to the Council that in future, if they had to send such a communication as that sent in the case of the County Hall, if they did not care to bring it before a Meeting, they should at least publish it in the JOURNAL and let the General Body know, so that it might be able to frustrate, if necessary, the views of the Council. He thought that the Meeting, from what he had said, would have a general idea of what was passing in his mind. He did not propose to move any resolution on the subject. He hoped that the Council, when revising the various matters referred to at the end of the Charter Revision Report, would take into consideration the observations he had made with regard to admitting reporters to all Business Meetings unless there was something of a private nature to be discussed; and also that the Council would be careful to get the assent of the General Body before they sent out a communication of the kind he had referred to.

THE CHAIRMAN asked if Mr. Woodward knew of any public body in the Kingdom who could conduct confidential correspondence by taking a vote of all the members of that body. In the instance to which Mr. Woodward referred the London County Council had asked, not the Royal Institute, but the Council of the Royal Institute, to make suggestions.

Mr. WOODWARD: They meant the Royal Institute.

THE CHAIRMAN: No, pardon me; they asked the Council of the Institute. If the Council of the Institute had published their letter the moment it was sent, and before the County Council had considered it, it would have been an insult to them, and contrary to the practice of every nation and of every public body in the world. In order to make a negotiation successful, it was necessary that some trusted body should conduct the correspondence, and when it was all finished it was legitimate then to publish it, with the assent of the two parties. As a matter of fact the gist of what was being done was published in the JOURNAL, and was referred to at their Annual Meeting. If Mr. Woodward had read his JOURNAL, he would not have been ignorant of what was going on. If the General Body elected a Council, they must trust that Council, or else dismiss them and elect a new Council that they could trust. He could only state that the Council had been occupied, and very much occupied, by doing what they believed to be in the very best interests of the Institute. As regards the admission of reporters at Business Meetings, it was undesirable in nine cases out of ten. Everything at Business Meetings that was of the least public importance was published in the JOURNAL, and any newspaper was at liberty to quote what they wished of it: hence there was no secrecy. As to the Council being secretive, he assured Mr. Woodward there was no reason for such a suggestion. The Council was only prudent and anxious to do what was best for the profession. As to the full assent of the General Body, when the Council had reported the negotiations they had been engaged in, it was always open to the General Body to repudiate their action if they liked. The fact was that members generally thought that what the Council had done was, on the whole, wise; they were but human, and they might make mistakes sometimes; but, on the whole, he thought that the practice now adopted was in the best interests of the Institute, and would commend itself generally to the feeling of the Meeting.

A MEMBER, referring to the constitution of the Council, said he thought there should be more direct representation of the Associate class, and he asked that it might be considered when the By-laws were being revised.

THE CHAIRMAN: That is new business entirely. If you will make your suggestion and send it in to the Council, it will receive consideration

Following the proceedings above reported, Mr. H. W. Wills [A.] asked the following questions, notice of which had been given: "Whether any communications have been received from provincial and metropolitan architects asking the Council to take a poll of the members on the subject of the employment of officials in other than an administrative capacity; and also what action the Council propose to take in the matter."

Mr. Wills said that his first question was unnecessary, because he knew the answer to it. The Council had received communications from certain provincial Societies, and the only reason they had not received communications from metropolitan members was that a certain reply postcard was sent out rather late—only last Saturday—and they had so far received fifty replies to it. In a few days' time he had no doubt they would have 200. The second point was really important, and the reason he brought it forward was because that, owing to the difficulty provincial members had in attending meetings of the Institute, it was quite possible to pass a Resolution in that room which did not represent the opinion of the whole body of members, and he thought it most important that on questions that affected them all, which affected the men in the provinces perhaps more than such questions affect themselves in London, there should be some power to take a poll, so that the policy of the Institute may be directed in accordance with the views of a majority of the whole of its members, not the majority at a particular meeting. It was with that object that he would ask the Chairman whether, in the event of a very large number of requests being received to take a poll on a special question, the Council would be willing to act on those requisitions. If they would, he would get all he was seeking for—viz., the opinion of the whole body of members on an important point. If they would not, he thought it highly important that, now they were going to have a new Charter, power to take polls on certain subjects or to give votes by proxy should be incorporated in the Charter.

The Chairman said that, with regard to the question Mr. Wills had asked, the Council had no power, either in the Charter or the By-laws, to take a poll on any subject. With regard to the specific subject that had brought forward this request, the Council had had several applications to take the particular poll in question, but from the fate which clause (I) of the Report they had considered that evening [page 327] had met, it did not look as though they would have the sympathy of the Meeting in carrying out Mr. Wills's wish.

Mr. Wills: I do not quite understand. I understood the intention of that clause was to prevent an official who was not a member of the Institute from acting in a certain capacity.

The Chairman: The effect of that clause would have been to prevent public bodies employing their own borough engineer to do their architectural work.

Mr. Wills: That is not my point at all. My point is this, which I thought I had made sufficiently clear, that I do not think it is in the interests of architecture or of those who practise it that any man——

Mr. Owen Fleming: On a point of order, is there any resolution before the Meeting? These are simply questions that have been asked and have been answered.

The Chairman: There is no resolution before the Meeting.

Mr. Wills: There is a point of explanation.

The Chairman: That is what I understood.

Mr. Wills: This is my point, and this is the point of the resolutions I brought forward which were not passed in this room, but which I think would be passed by the whole body of members if they were polled. My contention is that it is not in the interests of the art of architecture or of those who practise it, or of the public, that anyone should be given an official position which enables him for a long term of years—probably for his lifetime—to do a particular class of work to the exclusion of everyone else. Whether he is a qualified architect or whether he is not, my objection to men occupying such a position is the same. I am perfectly certain that any poll taken on the subject would show that a very large majority upholds me in my contention, and if that is the opinion of the majority of the members of the Institute the policy of the Institute should be in accordance with that principle, and not in accordance with a temporary majority obtained at any one meeting in this room.

The Chairman: You can always override the temporary majority by giving notice under By-law 60 that a poll shall be demanded. For example, a resolution is moved here and carried, and six members can require that that be relegated to a poll of the whole members. If that be done, of course the poll would be taken.

Mr. Wills: I grant that. But if you will look at what my resolution was and consider the amendment which was passed on Mr. Riley's recommendation, you will see that it would have been impossible to negative Mr. Riley's amendment. Mr. Riley's amendment was only part of the question. I quite admit, if it is a question of appointing an official that he should be a properly qualified man; but I go further than that, and say that there is no reason why architectural work should be carried out by officials.

Mr. Owen Fleming: This is going beyond a personal explanation; it is discussing the question over again.

The Chairman: If you wish, Mr. Wills, there is nothing to prevent you bringing forward by proper notice a resolution at a meeting and getting it carried if you can. If you do not get it carried, there is nothing then to prevent you moving so as to learn the view taken by the General Body.

The Secretary: If you get a resolution carried in the wrong sense, you can then ask for a poll.

The Chairman [reading By-law 60]: "A resolution . . . on any professional question shall only be carried at a General Meeting if there shall be present and voting at least," &c., "and if the same be supported by a majority of at least two thirds of those present having a right to vote and voting thereon. Provided always that when any such resolution shall have been carried as aforesaid it shall be suspended on a demand being made in writing, at or previously to the meeting by any six Fellows, that a poll thereon shall be taken by voting-papers."

Mr. Wills: Is it possible for me to take a poll on my original proposition?

The Chairman: No, there is no machinery for that.

Mr. Wills: Then we ought to see that the new By-laws contain the proper machinery.

Mr. W. R. Davidge [A.]: May I suggest that when we are considering the new By-laws we should also consider the question as to the number of times any one subject may be brought up in any one Session? It is unfair to members to bring them up to discuss a question repeatedly when it has once been voted upon and settled. The Institute as a body may decide a question once or twice in a Session, but there ought to be some finality. The Council in considering the new By-laws should take this important point into account.

The Chairman: That is undoubtedly an excellent suggestion to make in the interests of business generally. Perhaps Mr. Davidge would kindly send in his suggestion so that it may be considered by the Council now that the Charter and the By-laws have to be revised. If Mr Wills will do the same we shall be obliged.

Mr. Wills: As to voting by proxy and a poll?

The Chairman: Send in your suggestion in writing, and it will be considered.

Prizes and Studentships 1908.

The pamphlet giving full particulars of the Prizes and Studentships in the gift of the Institute for the year 1908 will be issued to members with the next number of the JOURNAL, and will afterwards be on sale at the Institute, price 3*d*. The prizes and subjects set for competition are as follows :—

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of forty.—*Subject :* "Function of Colour in Street Architecture."

THE MEASURED DRAWINGS MEDAL AND TEN GUINEAS, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Mediæval—in the United Kingdom or Abroad.

THE SOANE MEDALLION AND ONE HUNDRED POUNDS, open to British subjects under the age of thirty.—*Subject :* A Custom House on the Quay of a Harbour.

THE PUGIN STUDENTSHIP : SILVER MEDAL AND FORTY POUNDS, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Founded to promote the study of the Mediæval Architecture of Great Britain and Ireland, and awarded for the best selection of drawings and testimonials.

THE GODWIN BURSARY : SILVER MEDAL AND SIXTY-FIVE POUNDS, open to members of the architectural profession without limitation of age.—Founded to promote the study of works of Modern Architecture abroad, and awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

THE OWEN JONES STUDENTSHIP : CERTIFICATE AND ONE HUNDRED POUNDS, open to members of the architectural profession under the age of thirty-five.—Founded to encourage the study of Architecture more particularly in respect to Ornament and Coloured Decoration. Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*.

THE TITE PRIZE : CERTIFICATE AND THIRTY POUNDS, open to members of the architectural profession under the age of thirty.—*Subject :* A Design according to the Principles of Palladio, Vignola, Wren, or Chambers, for an Open-Air Theatre.

THE ARTHUR CATES PRIZE : A SUM OF FORTY GUINEAS, open to British subjects who have passed the R.I.B.A. Final Examination at one sitting during 1905 and 1906.—Awarded for the best set of testimonies of study submitted for the Final Examination, and for studies of Classical or Renaissance, and of Mediæval Architecture.

THE GRISSELL GOLD MEDAL AND TEN GUINEAS, open to British subjects who have not been in practice more than ten years.—Founded to encourage the study of Construction. *Subject :* Design for an Elevated Water-tank in Reinforced Concrete in accordance with the Regulations of the R.I.B.A. for Reinforced Concrete.*

THE HENRY SAXON SNELL PRIZE : A SUM OF SIXTY POUNDS, open to any member of the architectural profession (who may associate with him any member of the medical profession).—Founded to encourage Study of Improved Design and Construction of Hospitals, Convalescent Homes, and Asylums for Aged and Infirm Poor. *Subject :* A Design for a General Hospital with two hundred beds.

THE ASHPITEL PRIZE : BOOKS VALUE TEN POUNDS.—Awarded to the student who distinguishes himself most highly in the Institute Final Examinations 1906.

The Prize Drawings for Exhibition in the Provinces.

The following selection from the premiated designs and drawings in the Institute Competitions for Prizes and Studentships 1906–7, together with studies submitted by one of the candidates in the Intermediate Examination, will be exhibited in various cities of the United Kingdom during the next few months under the auspices of the Allied Societies :—

The Royal Institute Silver Medal (Measured Drawings).—Stokesay Castle, Shropshire (3 strainers), by Mr. David Robertson (under motto "Swallow"), awarded Certificate of Hon. Mention.

The Soane Medallion.—Designs for a Large City Hotel facing a Public Square : 3 strainers, by Mr. Harold Cooper (under motto "Cameo"), awarded the Medallion and £100 ; 2 strainers, by Mr. Anthony R. Barker (under motto "Simplex"), and 2 strainers, by Mr. A. J. Pitcher (under motto "Urn"), awarded a Certificate of Hon. Mention and Ten Guineas each.

The Owen Jones Studentship.—Drawings by Mr. Arthur R. H. Jackson (3 strainers), awarded the Certificate and £100.

The Pugin Studentship.—Drawings by Mr. A. J. Margetson (3 strainers), awarded Medal and £40.

The Tite Prize.—Designs for a Loggia for Sculpture to screen the Blank End of a building : 3 strainers, by Mr. G. Salway Nicol (under motto "Vignola"), awarded the Certificate and £30, with an additional £20 from the funds of the Wimperis Bursary ; and 2 strainers, by Mr. P. Napier Hemy (under motto "Nisi"), awarded Certificate of Hon. Mention and £10. 10*s*.

The Grissell Gold Medal.—Design for a Grand Stand constructed of Timber on a Race-course : 2 strainers, by Mr. W. A. Mellon (under motto "Royal Ascot"), awarded the Medal and £10. 10*s*.,

* These Regulations will be available on and after the 1st June.

with an additional £10. 10*s*. from the funds of the Wimperis Library.

The Arthur Cates Prize.—Drawings by Mr. W. W. J. Calthrop (2 strainers), awarded the Prize of £42.

The Testimonies of Study submitted for the Intermediate Examination by Mr. C. R. Merrison.

St. Paul's Cathedral.

Mr. Mervyn Macartney [*F.*], Surveyor to the fabric of St. Paul's, contradicts in *The Times* the statements which have appeared in the daily Press with reference to the condition of the Cathedral. Mr. Macartney denies having made any statements on the subject, and says that those purporting to have come from him are entire fabrications. When the Committee of Experts have drawn up their report it will be given to the public.

Mr. Thomas Hardy and Restoration.

Mr. John Hebb [*F.*] has the following in *Notes and Queries* (10 S., vi. 365) :—

Mr. Thomas Hardy's first story, "How I built myself a House," published in *Chambers's Journal* in 1865, when the author was in his twenty-fifth year, is a very commonplace performance, and gave but little promise of the celebrity to which the writer afterwards attained. The only noticeable point about it is a parenthesis in which the narrator, in the character of a newly-married man, observes: ("It may be here remarked that Sophia never calls me 'my dear' before strangers. She considers that, like the ancient practice in besieged cities of throwing loaves over the walls, it really denotes a want rather than an abundance of them within.") A truly felicitous comparison.

It is well known that Mr. Hardy was intended for an architect, but it is not so well known that he early achieved some distinction in his first profession, having in 1863 obtained as a prize a Silver Medal given by the Royal Institute of British Architects for an essay on an architectural subject—namely, "The Application of Coloured Bricks and Terra-cotta to Modern Architecture," and in the same year (according to Mr. Sherren, but this seems a mistake) gained Sir William Tite's prize for an architectural design. Mr. Hardy appears in his early days to have assisted in the restoration of several churches in his native county, of which he repented in later years, if we may judge from his writings. His novel, *A Pair of Blue Eyes* (1873), deals with the mischievous effects of "the craze for indiscriminate church restoration," which was then at its height, and in one of his *Wessex Poems*, "The Levelled Churchyard," he prays—

> "From restorations of Thy fane,
> From smoothings of Thy sward,
> From zealous Churchmen's pick and plane
> Deliver us, O Lord! Amen!"

In a Paper by Mr. Hardy, read at the annual meeting of the Society for the Protection of Ancient Buildings in June last (of which society the novelist is a member), Mr. Hardy expresses himself on the subject of restoration in the clearest manner when he says: "All that I am able to do is to look back in a contrite spirit at my own brief experience as a church-restorer, and by recalling instances of the drastic treatment we then dealt out with light hearts to the unlucky fanes that fell into our hands, possibly help to prevent its repetition in the few left untouched."

The Imperial Society of Architects of St. Petersburg have made the following elections:

Honorary Members: Sir Wm. Emerson, John Belcher, A.R.A., *Past Presidents R.I.B.A.*

Corresponding Members: Banister F. Fletcher [*F.*], W. J. Locke, *Secretary R.I.B.A.*

MINUTES. IX.

SPECIAL GENERAL MEETING.

At a Special General Meeting held Monday, 4th March 1907, at 8 p.m.—Present: Mr. Edwin T. Hall, *Vice-President*, in the Chair, 48 Fellows (including 16 members of the Council) and 39 Associates (including 1 member of the Council), the Minutes of the Ordinary Meeting held Monday, 18th February 1907 [p. 294] were taken as read and signed as correct.

The Chairman announced that the Meeting was convened in accordance with By-law to elect the Royal Gold Medallist for the current year, and that, as already announced, the Council had nominated Mr. John Belcher, A.R.A., *Past President*, for the honour. Whereupon, on the motion of the Chairman, the Meeting unanimously

> RESOLVED, That, subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of architecture be awarded this year to Mr. John Belcher, A.R.A., for his executed works as an architect.

This concluded the business of the Special Meeting.

BUSINESS GENERAL MEETING.

At the Ninth General Meeting (Business) of the Session 1906-07, held Monday, 4th March 1907, following the Special General Meeting above recorded and similarly constituted, the Hon. Secretary, Mr. Alexander Graham, F.S.A., announced the decease of the following members—viz., John Nixon Horsfield, *Fellow*, elected 1905; Lewis Eric George Collins, *Associate*, elected 1894.

The Hon. Secretary having formally acknowledged the receipt of books presented to the Library, a vote of thanks was passed to the donors by acclamation.

The following candidates for membership were elected by show of hands under By-law 9:—

AS FELLOWS (17).

THOMAS BALLANTINE.
WALTER RICHMOND BUTLER (Melbourne, Australia).
ALEXANDER LORNE CAMPBELL (Edinburgh).

FREDERIC WYKEHAM CHANCELLOR, M.A.Oxon.
FRANCIS WILLIAM DEAS, M.A. (Edinburgh).
WILBERFORCE ERNEST HAZELL [A.]
JOHN ROSS McMILLAN (Aberdeen)
PERCY WILLIAM MEREDITH [A.]
SIDNEY VINCENT NORTH [A.]
HARRY DIGHTON PEARSON [A.]
JOHN SANSOM (Liskeard).
JOHN NICHOL SCOTT (Edinburgh).
EDWIN SUMMERHAYES (Perth, W. Australia).
JOHN ROBERT SUTTON (Buenos Aires).
ARNOLD THORNELY [A.] (Liverpool).
THOMAS FRANCIS TICKNER (Coventry).
GEORGE WATT (Aberdeen).

As Associates (49).

ARCHIE JAMES THOMAS ABEL.
WALTER THOMAS ARMSTRONG (Lancaster).
THOMAS SIMONS ATTLEE.
GEORGE SYDNEY HERBERT BRADFORD (Cape Town).
ERNEST BARRACLOUGH CROSSLEY (Nottingham).
THOMAS LAWRENCE DALE.
HUGH ALEXANDER DALRYMPLE.
NOEL JOHN DAWSON (Chelmsford).
ALEXANDER COCHRAN DENNY (Dumbarton).
COLIN MINORS DREWITT (Southport).
PERCIVAL MAURICE FRASER.
JAMES THEODORE HALLIDAY (Stockport).
JOHN HORNER HARGREAVES (Manchester).
DUDLEY PARKES HAYWORTH.
JOSEPH REGINALD HOBSON.
WILLIAM ASHFORD HODGES.
JOHN NIXON HORSFIELD, Jun.
CLAUDE ELBORNE HOWITT (Nottingham).
SYDNEY JAQUES.
GEORGE THRALE JELL.
NORMAN JONES (Southport).
PERCY HUBERT KEYS.
HERBERT LANGMAN (Liverpool).
LEONARD ARTHUR LOADES (Morpeth).
ROWLAND ARTHUR LOVEITT (Coventry)
CHARLES ERNEST LOVELL.
WILLIAM GODFREY MILBURN, B.A Oxon.
PHILIP MINOR (Manchester).
CHARLES LEONARD THOMAS MORGAN.
ALAN EDWARD MUNBY, M.A.Cantab.
NORMAN TOLLER MYERS.
GEORGE NOTT (Leicester).
CECIL HENRY PERKINS (Carlisle)
ARTHUR PATRICK HECTOR PIERCE
JAMES CAMPBELL REID (Glasgow)
HAYDN PARKE ROBERTS (Horsham).
PERCY TOM RUNTON (Hull)
WILLIAM THOMAS SADLER.
ISAAC TAYLOR SIFTON.
JOHN MYRTLE SMITH.
DIGBY LEWIS SOLOMON, B.Sc Lond.
ANDREW KERR TASKER (North Shields).
RALPH WINDSOR THORP (Headingly)
FRANK JOHN TOOP.
JAMES IRVING TWEEDIE (Ecclefechan).
CHARLES PAGET WADE (Yoxford).
FRED WADE (Bradford)
ARTHUR FRED WICKENDEN (Maidstone).
WILLIAM BARNLE WYLLIE.

The Chairman formally presented the Report of the Council on the Resolutions with regard to the Question of Registration passed 3rd April 1906.

The Report was put from the Chair for adoption and voted on clause by clause.

The previous sections and clauses passed, on clause (G), Section IV., viz. "To extend the present chartered privileges of the R.I.B.A. making it the statutory authority for the education and examination of architects for admission to the Institute"—Mr. G. A. T. Middleton [*A.*], seconded by Mr. Percy B. Tubbs [*F.*], moved the substitution of the words "the profession of architecture" for the word "Institute." The amendment being voted on after discussion was negatived by a large majority, and the original proposition, being put as the substantive motion, was carried.

Clause (H), Section IV., "To legalise a Scale of Charges" was discussed and passed.

Clause (I), Section IV., "To require public bodies to employ a professional member of the R.I.B.A." was discussed, and on the motion of Sir Aston Webb, R.A., *Past President*, seconded by Mr. Ernest J. Dixon [*A.*], it was resolved that the clause be omitted from the Report.

The remaining sections having been put separately and passed, the Chairman finally put the Report as a whole, and it was

> Resolved, That the Report of the Council on the Resolutions with regard to the Question of Registration passed 3rd April 1906 be adopted, subject to the omission of clause (I), Section IV.

Mr. Wm. Woodward [*F.*], in accordance with notice, referred to the nature of the subjects brought before Business Meetings, and asked that reporters of the professional Press might be admitted to such meetings unless specially private matters were to be discussed. Mr. Woodward also referred to the powers of the Council to represent the General Body, and, criticising the Council's action in the matter of the proposed County Hall, he asked that in the future such matters should be brought to the General Body before any action was taken.

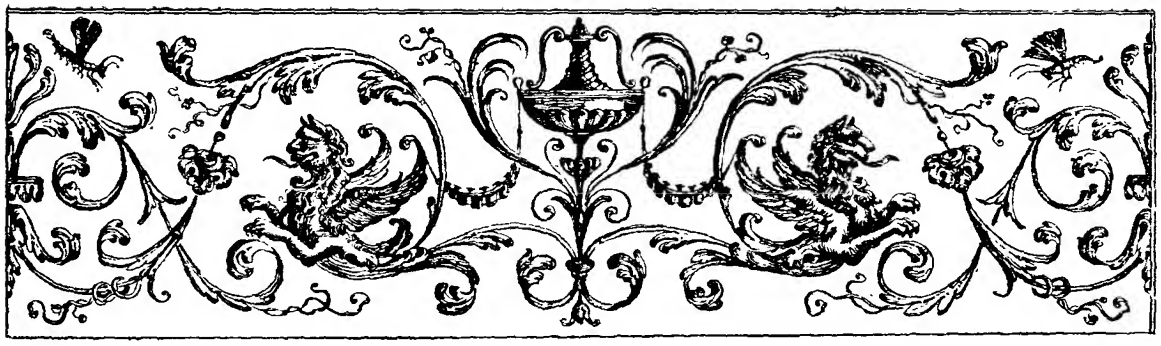
The Chairman, in reply, defended the practice of excluding reporters from their private meetings, and spoke in justification of the Council's acting as representatives of the General Body, and of the necessity for their independent action on the occasion to which Mr. Woodward referred.

Mr. H. W. Wills [*A.*], in accordance with notice, asked "Whether any communication had been received from provincial and metropolitan architects asking the Council to take a poll of the members on the subject of the employment of officials in other than an administrative capacity; and also what action the Council proposed to take in the matter."

The Chairman, in reply, stated that the Council had received several communications demanding a poll to be taken on the question, but the By-laws contained no provision enabling it to be done.

In view of the revision of the By-laws contemplated in the Report just previously passed, various suggestions were made by members for amendments in addition to those referred to in Section VII. of the Report, and the Chairman requested that these suggestions should be committed to writing and submitted for the Council's consideration.

The proceedings closed, and the Meeting separated at 9.45 p.m.



PUBLIC LIBRARIES. By Henry T. Hare [*F.*] and James Duff Brown (Chief Librarian, Islington Public Libraries).

I.—SOME SUGGESTIONS FOR A SIMPLE ARCHITECTURAL PLAN.

By Henry T. Hare.

So much has been written and said on the subject of public libraries that one may well be justified in concluding that the subject has been worn somewhat threadbare. Many very excellent Papers have been read, both in this room and in other places, which have dealt with them in a more or less exhaustive manner; and I doubt whether I shall be able to bring forward any views which have the merit of novelty, or which will assist in advancing our ideas on the subject.

The public library has been one of our most familiar problems for many years, and has been the occasion for many competitions, in which large numbers of the profession have taken part; and one might have reasonably expected that, with so much effort concentrated on a comparatively simple subject, some very notable results would have been achieved: that some very brilliant type of plan or design would have been evolved. Such, however, does not appear to have been the case, and I am not acquainted with any library which may be considered as an absolutely typical example, or which may claim to be the last word in library design. This may be due to several causes. There is, of course, always the familiar drawback associated with our national character which constrains our public bodies to consider for how little cost they can attain their object rather than how well it can be done. This point of view operates detrimentally in many ways. It leads to the selection of an inadequate site, generally of an irregular shape, and dominated by rights of light and other disabilities which render the designing of an architectural building an impossibility.

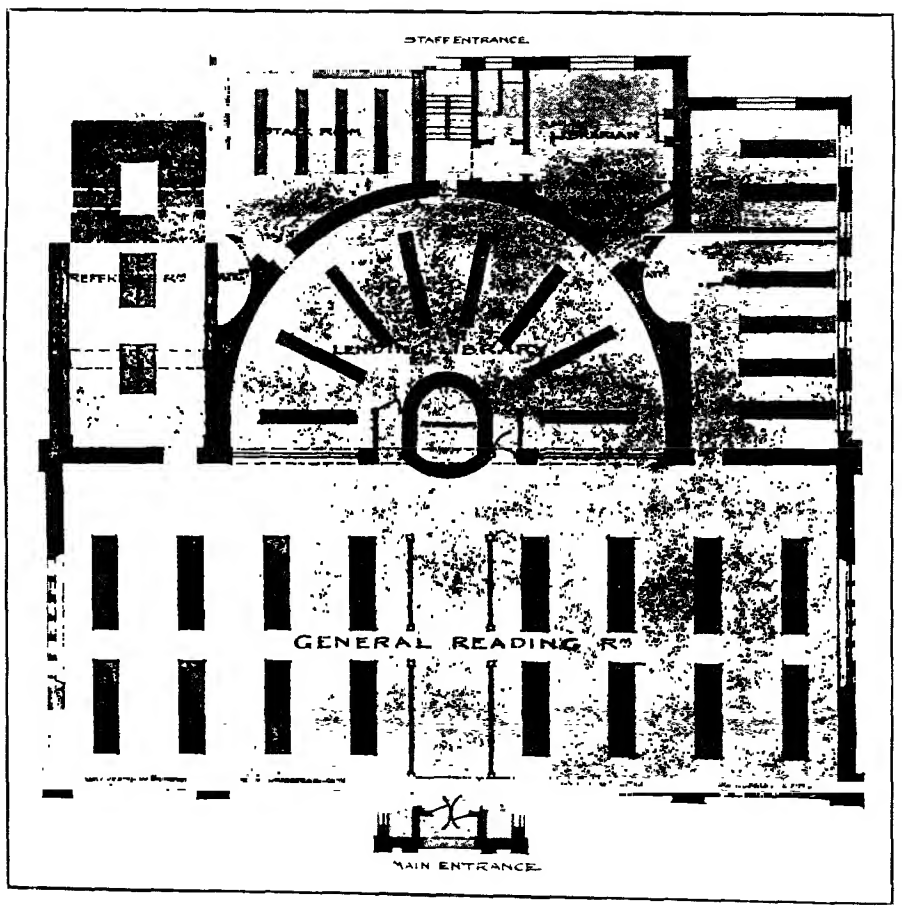
The accommodation required is almost always fixed without the least regard to the contemplated outlay. Many thousands of volumes which will probably never be acquired, and numbers of readers who will never appear, have to be provided with house room.

We are thus very seriously handicapped from the very outset; and, instead of being able to concentrate our efforts on a fine and worthy design, are compelled to dissipate our energy and exercise our ingenuity in devising cheap expedients and avoiding treading on the toes of our sensitive neighbours.

I am fully aware of the difficulties which public bodies labour under in the limitations of the penny rate, the opposition of a large section of their constituents, and other drawbacks; but I am of opinion that, in spite of these, if the problem were dealt with from the initiatory stage in a reasonable manner, and under proper advice, a much better result might in most

cases be attained. How often do we find in a library which is to serve a moderately sized district, and to involve a still more moderate outlay, accommodation is required for 20,000 or 30,000 volumes in the lending department! This needs a very large room, and I suggest that it is quite unnecessary. A lending library does not increase indefinitely, as a large proportion of the books, particularly fiction, becomes out of date from time to time, so that it may be said that shelving for from 10,000 to 15,000 volumes constitutes a lending library large enough to meet all practical requirements in an average district, and, if supplemented by an adequate storeroom (where books may be very economically housed), all that is needed in nearly every possible instance.

The reference library also is a room which is in many cases much over-sized. Except in special districts, it is very rare for this department to be used by large numbers of readers at one time. For an average library I should say that good accommodation for from twenty to thirty readers is very ample, and this does not require a very large room. A considerable number of books is, however, required; and if these are arranged around the walls the dimensions of the room must be increased to an extravagant extent. I would therefore suggest that the most reasonable arrangement is to place the bulk of the books in a stack room adjoining the reference room, where they may be most economically housed, and be to all intents and purposes equally easy of access.



PLAN ILLUSTRATING THE AUTHOR'S SUGGESTIONS.

Coming to the general reading-rooms, which are the most largely used, the usual treatment of these appears to be susceptible of much improvement. I am of opinion that the general conception of this important feature is fundamentally wrong. In almost, if not quite, all libraries this is merely a large room, or rooms, filled with tables or reading stands, spaced not more than six feet apart, and sometimes less. The result is that the room is more or less filled, and the floor space covered, without any readers. The constant movement which cannot be avoided must inevitably lead to much disturbance and discomfort of readers, and the main object of the room as a place for quiet and study is, to a great extent, defeated.

The ideal reading-room should, I think, be conceived on much more generous lines, and should partake more of the nature of a hall with probably an open roof, or, at all events, considerable height. It should permit of the spacing of the furniture very widely, allowing ample gangways in which persons could move without disturbing those who are reading. Arranged in this manner it could accommodate all classes of readers, except reference, and by obviating the necessity for several rooms might afford an economical solution of the problem.

Pursuing the same line of thought, it appears to me that the lending library might also be included in the reading-room, arranged possibly in a portion recessed, and that the typical library might virtually be reduced to a building of two main public rooms, viz., a general reading-room and library, and a smaller room for reference readers opening out of it.

An arrangement of this kind would obviate all passages, entrance halls, and staircases, and the whole of the available funds could be devoted to those parts of the building actually used by the public.

Whether such a plan would commend itself to the librarian, who will be responsible for its working, I cannot say. It should be very easy of administration, but it might be urged against it that there would be too much movement in the room to allow of comfort. I am, however, myself of opinion that the wider spacing of the furniture would obviate this objection. Such an arrangement as I am suggesting presupposes an ample and free site, which, unfortunately, is not often obtainable.

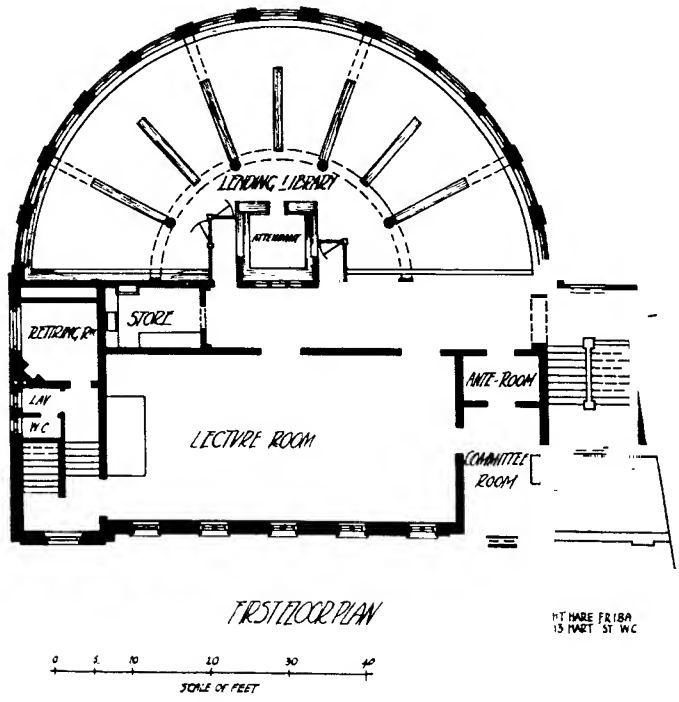
During the last few years the movement in favour of what is known as the "open access" system has been steadily gaining in strength, and there appears to be some likelihood that it will eventually supersede the familiar "indicator" system. The two systems involve entirely distinct and different methods of planning, and require approaching from totally different standpoints. As to the comparative advantages, I do not feel competent to speak—for a battle royal has been raging for years amongst librarians themselves on the subject—but will confine myself to the manner in which they influence the design of the buildings. With the "indicator" system the working staff is more or less concentrated behind the counter of the lending library, and the public rooms are generally arranged around this, so that the supervision may be exercised from this area. With open access, however, the case is somewhat different, the supervision of the lending department being a thing by itself. The staff devoted to this room is placed within a small central space commanding the entrance and exit and the entire area of the room, and from this arrangement it is practically impossible for them to control the other public rooms as well. They can therefore be treated as entirely distinct units, each to be supervised separately. In some way this tends to render the difficulties of planning rather less, but there are other points for consideration which present new difficulties. The necessity for the supervision of the lending library in all its parts from a central fixed point appears to suggest as the ideal plan for this room a semicircular form with radiating bookcases. This, so far as I have seen, is the most satisfactory arrangement; but it is very difficult, if not quite impossible, of arrangement on many of the confined and irregular sites which are in most cases selected. The placing of radiating bookcases in a

rectangular room appears to me very clumsy and unsatisfactory, and the parallel arrangement does not allow of complete supervision by the staff. It is, however, easy to exaggerate the importance of this supervision by the staff. In practice the public using the library very largely supervise themselves.

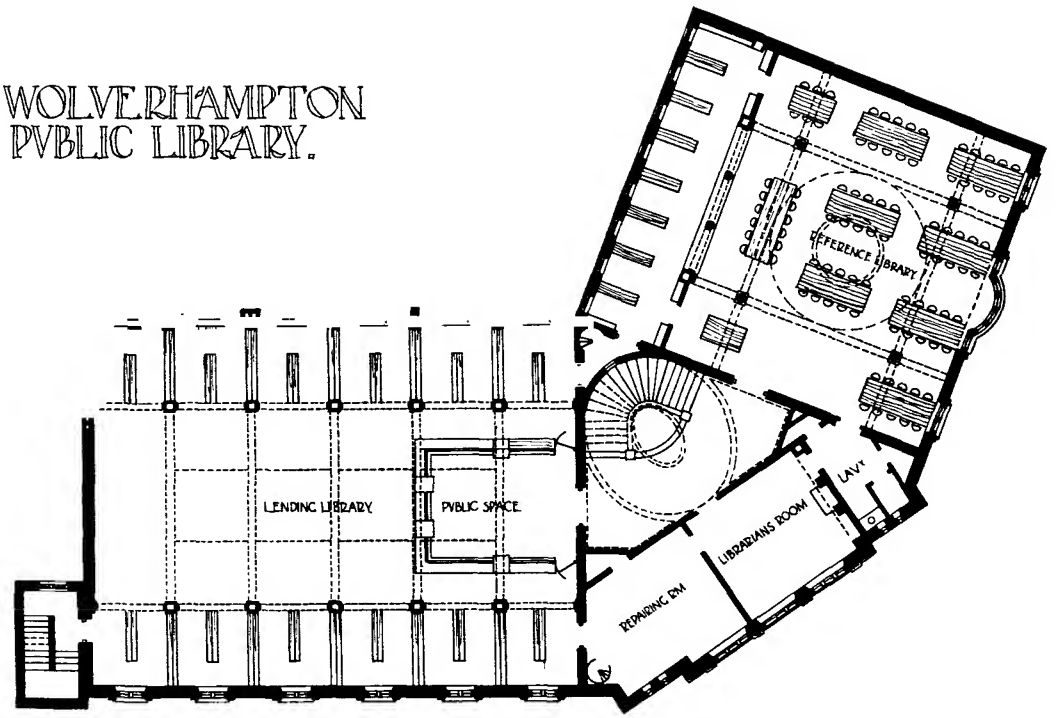
Another comparatively recent development in this country has been towards making libraries something more than a mere house for holding books and papers. An effort is being made to render them more widely useful as educational centres. The room set apart for the use of juveniles is being much extended and more thoroughly organised and popularised; and a room is being added to the institution where lectures on literary and kindred subjects can be given. The latter introduced a new element in the planning, as separate entrances and exits must be provided suitable for considerable numbers of people.

Regarding the library from this point of view, one may well begin to think whether the familiar newsroom with its costly fittings is really a necessity; whether newspapers are so valuable an educational medium as to warrant the provision of a large room specially for their accommodation, and the annual outlay necessary to stock it with papers. Few people are now so poor as to be unable to afford a halfpenny to buy a newspaper; and it cannot be denied that many of the most serious objections urged against public libraries have arisen through the existence of the newsroom.

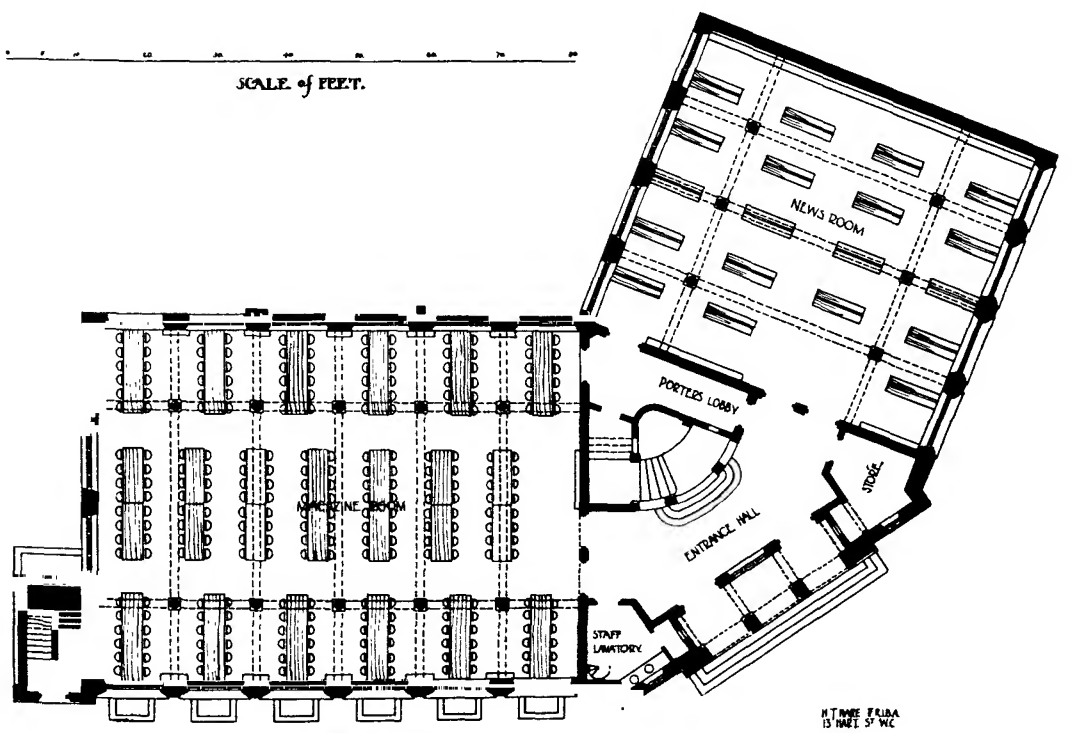
An interesting experiment is now being made in the new libraries building in Islington, where no newspaper room is provided, but only a large general reading-room, containing magazines and periodicals. So far as I know the Islington authority is the first public body which has been bold enough to make such an innovation, and it will be interesting to watch the result. Only one small branch library has as yet been completed and opened; and so far as one can judge from the working of a few months, it promises to be attended with every success.



PUBLIC LIBRARY, MANOR GARDENS.



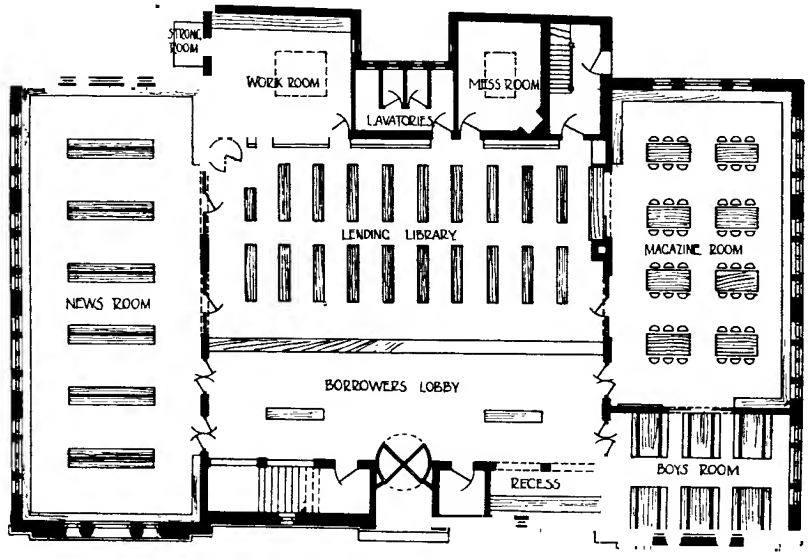
FIRST FLOOR PLAN.



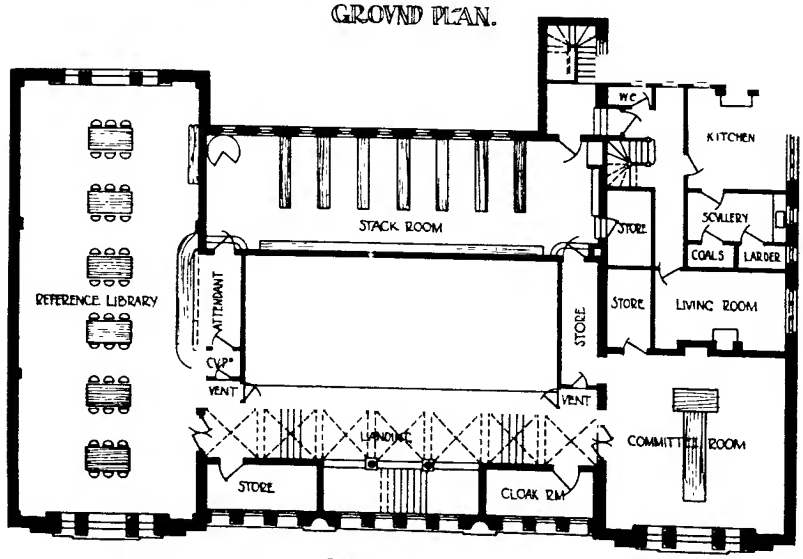
GROUND PLAN.

It is difficult to generalise as to the furnishing and interior fittings of a public library, as the requirements in such case will vary very widely, and individual librarians will have their own ideas of working which will largely govern the arrangements. I think, however, it may be taken as an axiom that only hard wood should be used, and that the best material consistent with cost is wainscot oak. I should indeed suggest that this material be used for the joinery throughout the building, even at the risk of increasing the first cost. It is really an economy in the long run, as all painting is thus avoided.

It still remains for someone to discover the ideal floor for the public rooms of a library. Linoleum appears, up to the present, to be the most suitable; but if something of the nature of terrazza, without its objections of noisiness and coldness, could be produced, probably the ideal would be attained.



GROUND PLAN.



FIRST FLOOR.

Scale of Feet.

CENTRAL LIBRARY, HAMMERSMITH.

I should like, in concluding this short Paper, to again urge the desirability of reconsidering our views of the necessities of a public library in the direction of a much more simple type of building. I think the nearer we can approach to the idea of one large hall with very ample space, both as regards floor area and cubic capacity, the nearer we shall get to the ideal library plan. Such a building should be eminently adapted for supervision and general administration, economical in first cost, and comfortable and convenient for the readers who frequent it. I think also it might lend itself to a very dignified architectural treatment, which I regard as a matter of the first importance; for every public building should be a worthy landmark to the district where it is built, and should impress itself on the passer-by as a dignified expression of the public spirit which has prompted its erection. Good architecture is, to my mind, at least as essential as mere convenience, and may have as great an educational influence in its own particular direction as all the books the library may contain.

II.—LIBRARY PLANNING AS AFFECTED BY MODERN LIBRARY POLICY AND INTERIOR ARRANGEMENTS.

By James Duff Brown, Chief Librarian, Islington Public Libraries.

THIS brief Paper will be devoted to the discussion of some modifications imposed upon modern library buildings by recent changes of methods and the adoption of more liberal lines of policy.

Long before Mr. Andrew Carnegie discovered the philosophers' stone which enabled him to lift so many architects into comparative affluence, library authorities were confronted by one great problem—how to supply the library needs of a town with strictly limited funds. The only factor which they considered was the amount available for spending, and it was rarely, if ever, thought necessary to estimate the probable number of readers who would be attracted to the building, and the resulting accommodation which might become necessary. The usual procedure was for a committee to fix an arbitrary sum, without regard to the effect of loans on a strictly limited income, and to assume that it was ample for all purposes. In most cases the sum provided only paid the builder for the bare structure, and such insignificant items as fittings and furniture, architect's fees, quantities, clerk of works, and that blessed item "contingencies" were simply ignored, because nobody troubled about them till the bills came in. The effect of such carelessness or simplicity was that many buildings cost nearly fifty per cent. more than the outside estimate, and they can be seen at the present day crippling along without books on the shelves, and regarded with disfavour by the public. It has been found by actual results that in London at least thirty-five per cent. must be added to the cost of a library building in cases where the specification does not include provisions to cover such items as furniture and the others just mentioned, while in the provinces perhaps thirty per cent. would be a safe amount to add. This point is mentioned because library committees have such extraordinary ideas as to the purchasing power of the ratepayers' money or the dollars so lavishly bestowed by Mr. Carnegie. For an inclusive sum of £5,000 they imagine they are going to obtain a building as roomy as the Agricultural Hall and as ornamental and dignified as the British Museum. Both architects and librarians suffer from these mistaken ideas of the price of building materials and professional advice, and are often

blamed when estimates are greatly exceeded. It is a pity that the English Libraries Acts do not specify the amount which shall be borrowed for building purposes, as in the case of the Scotch Acts, which lay it down as a law that only one-fourth part of the income from the library rate, capitalised at twenty years' purchase, shall be borrowed, and thus a definite check is put upon the mistakes and extravagances of committees. In most cases throughout England this reasonable proportion of the library rate has been enormously exceeded, with the result that many buildings exist possessing architectural merits, but few good points as libraries; being in many instances failures.

It has been necessary to labour this point of discrepancy between funds and needs because on it depends everything connected with the provision and arrangement of library buildings. In spite of the munificent Carnegie gifts, and in some cases because of them, municipal libraries still labour under the disadvantage of a rate limitation which decreases the efficiency of a public library service in proportion to the size of the town. Thus, a small town with a library rate producing £200 per annum, and provided with a Carnegie building covering an area of 4,000 square feet and costing about £4,000, cannot be regarded as flourishing, although it does possess a fine building. On the contrary, the craze for overbuilding, just because the money is easily obtained, has been responsible for, and will continue to multiply, cases of library buildings which are collections of bricks rather than of books, and whose equipment is so meagre, and funds so scarce, that the hours have to be shortened in order to avoid a gas bill which would extinguish the penny rate! The relations between the population, income, loans, and readers likely to be attracted to municipal libraries, have been ascertained by a careful examination and analysis of the work accomplished and conditions existing in all the principal libraries of the kingdom, and the whole has been reduced to a series of averages which will serve as a body of factors applicable to any ordinary library problem. Bearing these factors in mind, and also the various changes in library policy which have taken place during the past fifteen years, it is possible briefly to formulate a few points which may serve as suggestions for discussion.

1. The idea of uniformity in library buildings and methods seems to have become quite prominent within recent years, and in certain directions it is claimed to be extremely desirable for every library to possess the same rooms, arranged in the same way, fitted with standard appliances, employing the same classification and catalogues, and being in all other ways a counterpart of every other library. It seems to be regarded as of supreme importance that a man from Leeds should be able to walk into a library at Plymouth and find his way about blindfold. Rules and factors are being sought which will render the accomplishment of this uniformity easy: and when everything is thus standardised, it is to be supposed that architects and librarians will be entirely superseded by builders and caretakers. It is to be hoped that these factors for aiding uniformity will never be discovered, and that architects will continue to design, and librarians invent, fresh solutions of every problem presented. In this way only can improvements be discovered and progress become possible.

2. The practice of closely classifying books on the shelves in municipal libraries has led to some extraordinary modifications of methods, which in their turn have introduced many changes in requirements and arrangements. Exact classification itself has brought about changes in the height, spacing, and adjustability of bookcases, while a number of minor appliances and modifications have been rendered necessary for marking or guiding shelves and books. More important still is the influence which systematic classification has had on the plan of granting the public direct access to the shelves, known generally as the safe-guarded open-access system when applied to lending libraries. Fifteen years ago only a few libraries granted open access to a selection of quick-reference books on the British Museum and Patent

Office plan ; now there is scarcely a municipal library which does not throw open its reference department, in whole or in part, for the free use of readers without the need for application forms and other barriers to research. This is very largely due to the rapid advance in the use of exact classification, which has caused librarians to feel proud of their libraries, and made them desirous of allowing the public to come and admire and share in an arrangement, accomplished with much labour, which otherwise would have remained comparatively useless. Hardly any objection has ever been made against this form of open access, which is very surprising when one considers the number of valuable and expensive quick-reference books which exist, and the fact that they may be used in such libraries by utterly unknown individuals from the street. The same immunity from hostile criticism was not enjoyed by the safe-guarded open-access system when it was applied to lending libraries thirteen years ago. Indeed, the experiment at Clerkenwell in 1894 was condemned in the most unmeasured terms by all kinds of librarians, and doleful prognostications were made as to the ultimate collapse of the whole library world if such insane methods were adopted. Yet this experiment was only extended to the comparatively inexpensive and ordinary stock of a lending library, to which only duly guaranteed and respectable ratepayers, their families and dependents were admitted. Furthermore, unlike the reference readers, they were locked in after proving their *bona fides*, and could only get out on registering the books chosen. A number of architects must have received the never-ending stream of anti-open-access literature which littered the Post Office from 1894 onwards; and many would no doubt be adversely influenced by the ingenious arguments put forward to prove that the open-access system was a humbug, if not a fraud. Well, the only result of all this gratuitous advertising has been to swell the adherents of the system from one to sixty or seventy, and it is clear that within the next few years the method will have become all but universal. From an architectural standpoint, the most important matter connected with the open-access system is the modifications in the planning of libraries which it introduces. In both reference and lending departments the bookcases must be made easily accessible from the floor without the use of steps, and the spacing of standard bookcases when facing each other must be arranged so that readers can stand back to back at the shelves and still leave a sufficient gangway for others to pass. This implies a minimum spacing of five or six feet between bookcases. The loss in storage room caused by this wide spacing and the disuse of all bottom shelves is largely made up by throwing into the room the lobby usually reserved in front of indicators and similar closed systems, with the result that the loss of space is very nearly balanced. The alleged loss of storage space for books in open-access lending libraries is not a serious matter, because, after the department has been open for a month or two, the chief complaint is not so much on account of lack of shelves as lack of books. As a matter of fact, shelving to store the maximum stock of any lending library is never required after a year's work save in places where the books are recalled annually for stocktaking purposes ; and even then, if the library is periodically weeded of obsolete books, congestion only arises in a very few cases, and only for a brief period. The best shelving for a public library is the homes of the borrowers, and for that reason elaborate efforts to find accommodation for books which are generally in circulation is a mistake. In some towns, notably Southport, Brighton, and Southend-on-Sea, the doubts of the local authority have led to a compromise on the open-access question under which indicators are used for fiction, and open shelves for non-fictional works. This plan, however attractive in theory, rather tends to complicate the arrangements and largely does away with that valuable supervision of reader over reader which is only obtained when all the borrowers are placed on an equal footing as regards access to the shelves. Why the reader of romance should be considered many degrees inferior to the reader of history or theology is one of those puzzles

which continually arise in library work. A citizen who reads the Robin Hood ballads is accounted a person of high intelligence, while one who reads *Ivanhoe* or any other version of that hero's exploits not in metrical form is supposed to be addicted to literary frivolity. A versified form of literature is supposed to be of greater intellectual value than a prose form, and no doubt, in the minds of some people, an indelicate drama of the Restoration period would pass muster as high-class literature where a clean, healthy, and well-written prose romance would be condemned. It is difficult to grasp this distinction between what is, after all, mere literary form. There are some novels as heavy and tough as the most solid and matter-of-fact history, and the effort involved in reading and digesting them is equal to what might be necessary to understand an abstruse work on mathematics. These are all good and sufficient reasons why differentiations of stock and readers should not be attempted in open-access libraries. The adoption of the open-access system in new library buildings will not introduce any fresh difficulties into their planning and construction, because it can be applied to any room of fair size. The simple barrier for regulating the entrance and exit of readers occupies but little space, and by arranging fiction round the walls all chance of crowding at particular points is avoided. In old buildings which have to be adapted for the system considerable alteration may be required, and this is one reason why many places are slow to make the change. It is only a matter of a short time, however, in quite a number of libraries, because already all their available counter space is occupied by indicators and showcases, and as the stock increases the congestion will become greater, and some other system must be tried. It is safe to predict that in a majority of such cases the change will be made to open-access rather than to modified indicators, card-charging systems alone, or other compromises. Whatever professional feeling may be, there can be no doubt that, both in this country and in America, public opinion is entirely in favour of more liberal and scientific methods of library administration, and in a few years' time impassable barriers between the public and their own books will have disappeared.

3. Another department in which great changes are certain to happen is the reference library, which has not yet taken the place it should in educational and municipal library work. It is too often regarded as a kind of expensive reading-room with a book-store attached in which little-used and rare books are housed at a cost out of all proportion to their utility. The function of the reference department in the past has been to *collect* books rather than to utilise them for purposes of research, and thus has arisen a series of book museums rather than literary workshops. The growth of open access and the steady spread of exact classification will gradually dispose of this very limited conception of reference library work, and the result will be a return to the sane and practical arrangements adopted years ago in the British Museum and other State libraries. It is difficult to understand why the British Museum plan of dividing its stock into much-used sections on open shelves, and less-used sections in stores, was not adopted in municipal libraries more generally in the past; but it is more difficult still to imagine a modern library authority persisting in the conservative policy of closed shelves with so many successful examples of open access to study and copy. There is nothing more irritating to a student or busy man of any kind than the petty worry and trouble of being compelled to hunt in bad catalogues for reference books, and then to fill up application forms and waste time waiting for the books to be fetched at the pleasure of a slow assistant. The contrast offered in the British Museum reading-room between the open and closed methods is most instructive. A book on the open shelves can be found and referred to without hindrance or loss of time, while almost any book which has to be applied for on a written form is rarely delivered to the reader under thirty or forty-five minutes. In the case of some books an hour must be spent in waiting, while the student who wishes to

make reference to a number of books would be well advised to write his application slips a week in advance, and hand them in at least a day previous to his visit. A quick-reference collection of books is a select library of works in dictionary form, comprising all the ordinary reference books which a reader wishes to consult rapidly and without formality or intermediate application: encyclopædias, dictionaries of language, history, arts, science, quotations, geography, atlases, directories, year-books of all kinds, and, generally, the kind of useful book with which the walls of the British Museum are lined. Books not suitable for open shelves would comprise very rare books, local books, and special collections which have to be preserved, long sets of transactions of societies, and generally the less-used classes of books which most libraries are forced to accumulate. The arrangements necessary for this plan of division need not be very elaborate, and a reference room can have its open shelves arranged in alcoves or as simple wall bookcases, and the store collection can be railed off by means of a slight barrier, or kept in locked presses or in a separate room. A very important part of reference-room work is the provision which ought to be made for readers. Here, again, municipal libraries have generally failed to grant the comfort and isolation which the British Museum authorities wisely thought desirable. No serious student can work satisfactorily at a long table, common to perhaps other nine or eleven readers, some of whom are bound to be offensive as neighbours. A student copying mathematical problems might be opposite another student tracing large details from a huge work on architecture, and his papers would be liable to be disarranged, if not swept away, every time the architect swung round his massive folio. Again, the reader to the left might smell strongly of beer or tobacco, while the one on the right may be of a very restless disposition, or addicted to the emission of offensive noises. For all these reasons it is highly desirable, if the right type of serious student is to be attracted to reference libraries, that complete isolation should be arranged, so that everyone should have a reserved, self-contained place at a table, with plenty of accommodation for spare books and table space sufficient for the arrangement and spreading of reference works and papers. This provision will mean a little more room per reader, but the value of the department to students will be enormously increased, and it will become the recognised workroom for every student in the district. This plan of allowing separate table accommodation has already been tried in a few places, and the results are most gratifying.

4. The only other matter proposed to be mentioned now connected with the policy of public libraries which may in the future influence planning is the question of limiting the supply of newspapers. Already many libraries have cut down the supply to a considerable extent by dispensing with all halfpenny newspapers and those provincial newspapers which arrive too late to be of use. In a few towns the provision is limited to the exhibition of the "situations vacant" columns cut from the morning newspapers, and in one place no newspapers are taken at all. By limiting newspapers to the provision of one good daily, and the display of situations advertisements—as at Islington, for example—considerable economies are effected, and, perhaps, what is most remarkable, the public never miss them. In towns which have been for years committed to the policy of supplying newspapers there would no doubt be some difficulty in making a change, but in new buildings the question is well worth serious consideration. Some towns spend from £40 to £60 annually on newspapers alone, and when to this are added the cost of stands and fittings, lighting, staff and proportion of loans or the cost of providing the necessary space, it will be found that newspapers are one of the most expensive and least permanent items in the equipment of a library. It is needless to discuss the many reasons for and against the supply of newspapers, because local authorities must in the end determine all questions of policy; but everyone can admit, without committing himself to any opinion, that the columns of situations vacant are of real service to thousands of people.

This being generally allowed, it seems a wise compromise to limit the newspaper provision to this department, and so sweep away all more controversial subjects.

Briefly summarised, the main points presented for discussion in this Paper are as follows:—

1. Is it advisable in the interests of progress and efficiency to standardise library plans and methods by adopting one uniform system for everything?

2. Systematic classification by introducing more scientific methods of arrangement will necessitate some alteration in the structure and spacing of bookshelves.

3. The open-access system in both reference and lending departments will impose upon library plans certain alterations tending towards simplicity and the general abolition of barriers and screens. It will also require different treatment as regards spacing and arrangement.

4. Reference departments should provide more isolation and comfort for readers, and if this is recognised some difference in the size and arrangement of such departments will be rendered necessary.

5. The limitation of newspapers in news and reading rooms will simplify the problem of planning in connection with such accommodation, and improve the appearance of these departments.

In conclusion, I should like to express my sympathy with architects in their intricate task of pleasing the public, committees, and librarians, by quoting the words of Lord Cockburn in his *Memorials of his Time* when referring to certain difficulties which attend the man who devotes himself to the planning and erection of buildings: "An architect is almost the only professional man who can never be rightly judged of by the works which he executes. His art is costly, and each part is fixed as soon as it is done. There is no rubbing out. This would be severe, even were he allowed to have his own way. But how often does it happen that he is thwarted by position, poverty, or obstinate ignorance! He must perpetually sacrifice his taste to suit the humours and the purse of his employer. Yet nothing is so common as to hear an architect condemned on the mere sight of a work against every defect of which he has protested. Painters do not paint, nor do poets write, on these terms."

DISCUSSION OF THE FOREGOING PAPERS.

Mr. Leonard Stokes, *Vice-President*, in the Chair.

Mr. MAURICE B. ADAMS [*F.*] said he had been asked to propose a vote of thanks for the Papers, and he did so with the utmost cordiality and the most entire appreciation of both the lectures in regard to the useful observations that had been brought forward. It so happened that he had himself read a Paper on the subject, and therefore he fully realised what both Mr. Hare and Mr. Brown said, that it was extremely difficult to say anything particularly fresh upon it. If the lecturers had realised that, what must he feel in venturing to make some remarks after they had concluded? There seemed to be a discrepancy between the two Papers, Mr. Hare wishing to co-ordinate in general the plans of all libraries by greater simplification of idea, and Mr. Brown protesting that we ought not throughout the country to plan these buildings too much on the same lines. Probably Mr. Brown was looking at the problem from a librarian's point of view with regard to its utility in particular localities. That view he (Mr. Adams) was entirely in accord with, because the purpose of these libraries had been to a very large extent mistaken, in so far as their educational possibilities were concerned. The overstocking of newspapers had certainly been a mistake. Newspapers had deteriorated very much during the last few years. The system of snippety paragraphs, the appeals to the speculative energies of the readers, treasure-finding, and the like, were most detrimental to the intelligence of the community. The majority of such newspapers could very well be dispensed with; he doubted very much

whether the Press exercised the influence it used to hold over public opinion. Without entering upon politics, he thought it a curious circumstance, in considering the condition of the newspaper Press of London at the present time, that the Government had an enormous majority in the House, yet the interests they represented were not able to maintain even one decent morning penny London paper. The *Tribune*, perhaps, was no doubt a good paper, if somewhat heavy, but he doubted whether it could be compared in importance with papers representing the minority in opposition. The present condition of the daily Press warranted criticism, and the proposal to limit the space devoted to it in their libraries should be considered. With regard to the open-access system he chanced to have seen the number of replies obtained by the St. Pancras Library Committee from all parts of the kingdom as to the advantages in the opinion of librarians of this manner of conducting a library. The consensus of opinion thus collected was overwhelmingly against open access. He had been rather surprised at that, because several people, himself amongst the number, had been hammering away for years as to the advantages of that system. What he wished to do was to bring the public face to face with the books, so that they could choose what suited their individual requirements. There might be two or three reference books on a particular subject, some more or less obsolete; but one could not tell that until one had actually looked into the books. Often by handling the volumes one could get the information one wanted in a few minutes. He was strongly in favour of the open-access system, but he did not quite understand why Mr. Hare should refer to the places the library officials worked in as "hen-coops"; as a matter of fact open-access enclosures were more or less elongated counters, from which supervision could be carried on admirably. It was not that the public required so much supervision, as the possibility of being able to see them at any particular moment. If openings were more or less freely distributed round the rooms of the building, it would be found generally sufficient. The people behaved fairly well; they could never know exactly who was looking at them or when they were being supervised. The great thing was to give the opportunity of having them under surveillance. The Wolverhampton plan shown by Mr. Hare he considered the most capable and admirable one they could possibly have on such an extremely awkward site. He had been particularly struck, as a fellow competitor, by the ability displayed by the author of that design. As to the success of Mr. Hare's Hammersmith building, he could speak with some feeling, because here, again, he was one of Mr. Hare's competitors, and he realised the ingenuity of Mr. Hare's scheme. He should also like to say how much he appreciated the skill displayed by Mr. Hare in the Islington Central Library plan. There was no section shown, but the way the roofing of the large upper room was managed was most ingenious, and he thoroughly appreciated the skill with which the stack-room was arranged. The stack-room at Hammersmith ran across behind the central area of the large room below, and the attendant in the alcove could retire into that store to get the books in the most convenient way. This plan had found some imitators, but when a man did a good thing like that there was some excuse for imitating it. He was sure Mr. Hare would be the last to object to such imitation. The heating of these buildings seemed often a most difficult business. Radiators made such a dreadful mess and occupied valuable wall space. Lately he had reverted to the old system of open gratings, thus getting the heat more generally distributed and away from the walls in the passages. The librarian for whom this had been done had assured him that the plan was quite a success. He had put cork lino into panels to reduce the noise made by walking over the gratings, and it had turned out satisfactorily, and certainly the warmed currents so disposed did not make such a mess. He had used hot air and got the inlets away from the walls, but even then the local discolouring which resulted was very detrimental to the appearance of the room. With regard to Mr. Hare's model plan shown—where the children would have to go through the reading-room to get to the juvenile department—that would be rather open to objection, but the difficulty of efficient control would not be so great as in the case of a lobby where the children could skedaddle out and not be got at at all. A back or side entrance for the children, again, was very objectionable. They were more likely to behave if they came in by the front way; but their having to go right through the reading-room would be rather disturbing to readers.

MR. E. A. BAKER, M.A., Librarian of the Woolwich Public Library, who rose at the invitation of the Chairman, said he had very much pleasure in seconding the vote of thanks. Mr. Brown had distinguished himself among librarians by the boldness with which he had worked out his problems on first principles, and put them into effect regardless of opposition. He had distinguished himself more especially by reviving the open-access system and by his recent experiment in abolishing newspapers. He trusted his recent experiment would have the same success as the former one. The open-access system was not, of course, a modern idea. It was in force probably in the oldest libraries of brick and papyrus. It was certainly in force in the libraries of one hundred years ago. The closed-library system was quite modern, and he believed would be quite transitory. It was introduced about half a century ago, when public libraries and mechanics' institutes were first opened, bringing large bodies of comparatively uneducated readers face to face with large masses of books. There was obviously considerable difficulty in

knowing how to administer these crowds of readers and enable them to use the books intelligently. The difficulties were doubtless so overwhelming that librarians thought the best way was to shut the library up and dole out the books through a pigeon-hole. Mr. Brown had shown them how to adopt a more scientific system, and he himself felt sure that his prophecy was quite correct, and that the open-access system would sooner or later be universal. There had been a great deal of hostility, and a good deal of hostility still existed, to the system; but that was largely due to the natural inertia of librarians who were in charge of libraries organised on the old plan. The difficulty of converting a library on the closed system to the open-access system was very great indeed; probably in the near future the problem before architects would be not so much to devise new library plans as to convert the closed libraries into open-access libraries. In the library at Islington, which he admired very much indeed, Mr. Hare had carried out the most modern ideas of library administration, not only with the greatest economy, but also with the most artistic effect.

Mr. R. J. ANGEL, M.Inst.C.E. [A.], asked if Mr. Brown could give his experience as regards the loss of books on the open-access system. He should like the number to be given—not the percentage, but the actual number of books lost. Reference had been made to the disadvantage of the indicator system, which was due to the bad method of having to fill up the forms and give out the books after reference to the indicator, as against the great saving on the open-access system. He ventured to suggest that the excellent plan shown of the Southend Library, which gave a maximum of counter space, was a ready solution of that difficulty; given a long counter where the public could be distributed, and where there were several indicators, each indicator governing its own class of books, and with an assistant in charge of it, then the public would be readily served and quickly dispersed. The British Museum had been recommended to them as a model to copy. But one very good reason why the British Museum could not be copied was because of the system on which the borrowers became members of the library. It was very much more difficult to become a member of the British Museum Library than of a local library in a country town or in a London borough. Practically anybody could become a member of a library in London, provided he could get one or two guarantors to sign his paper. That was rather an argument against copying the British Museum. One might get a man of very indifferent character slouching into, say, a Council's library with dirty hands, and handling a most valuable book, as he would have every right to do, and perhaps leaving his mark on it. Another argument against the open-access system was the noise it engendered. People searching for books would discuss whether they would have this, that, or the other book, and a lot of talking was the result, which must certainly be objectionable. Reference had been made to the point that the borrower wanted to find out the kind of book he was in need of, and this he could do on the open-access system. It seemed to him, however, that if a librarian did his duty, and properly catalogued the books and described them in the catalogue, the public would know the kind of book they were going to get. One cannot get a great deal of information from the backs of books; if the binding is pretty and the title is gilt, that might be an inducement to look at the book; but unless the book is taken down and its contents read through one cannot get much information about it. If the gist of the contents of a book were given in the catalogue, it would overcome every difficulty in that respect. He had two questions to ask. First, what was the number of books stolen from libraries where the open-access system was used? Secondly, had any libraries given up the open-access system in favour of the indicator or closed system? He believed that some librarians had abandoned it both in municipal and private libraries. In conclusion, he had great pleasure in supporting the vote of thanks for the very excellent Papers and the practical advice so freely given.

Mr. R. A. PEDDIE, Acting Librarian of the St. Bride Foundation Technical Library, said he had seen the library at North Islington, and it struck him as the result of a most happy combination of architect and librarian. It was occasionally the case for a library to be planned without reference to a librarian. Occasionally a library was organised and planned before the librarian was appointed, and unless the architect had had a considerable experience of the wants of a librarian from the librarian's point of view, something would be found lacking in that plan. It was absolutely necessary that the two partners in the concern—he would put it as broadly as that—should be in absolute consultation. The North Islington Library, he believed, had been the result of such a consultation and such a partnership. Mr. Brown's experience in library planning was very extensive. His article on the subject in his *Manual of Library Economy* was the latest word on the subject. They knew, too, that Mr. Hare had had a great deal of experience in library planning also. He (the speaker) had been over a great many libraries, but the North Islington building appealed to him as the most like what a library should be as any building he had ever seen. It was most admirably adapted for its purpose. The reading-room, with its semicircular shape, absolutely filled the bill. It gave perfect supervision, and at the same time the maximum space for the shelving round the walls and the radiating shelving in the centre. The lecture-hall, again, was admirably adapted for its purpose. The only criticism he had to offer was that sufficient space, he thought, was not given to the tables in the

periodical-room. The large periodicals, he thought, required more space. Probably that had been altered by this time. The present was hardly the place to discuss this question of open access *versus* closed libraries, but in his opinion there was no doubt whatever that the value of a book was immensely raised by being placed directly in the hands of the reader, so that he could look through it before taking it home to read. The view of a little number on a blue or red ground from behind a case, and a little entry in a catalogue, whether that entry was annotated or not, was not sufficient to indicate the style or temper of the book; but when the reader was able to take the book down from the shelf and glance through it, then he would be able to choose the book that would suit him a great deal better than by merely looking it up in the catalogue and then consulting a lot of little numbers of various colours, and then going blindfold for a book which he thought might possibly suit him. It must be recollected that with this indicator system one was not allowed to change the book the same day; generally speaking, one would have to keep it until the following day, and then journey again to the library to change it. It was possible that in a very uneducated community a certain modification might be necessary; but in a community at all educated the open-access system was very desirable, and he believed, with Mr. Brown, it must become *the* system extended over the whole library movement.

Mr. A. J. PHILIP, Librarian of the Gravesend Library, said he thought the librarians present must have felt quite happy. The subject of open-access had been tabooed in the Library Association for a long time; but at the meeting that evening they had been allowed to say just what they liked. He did not himself propose to say anything on it at all. Those librarians who were not actually in favour of it kept an open mind upon the subject. But there were two points which perhaps had been overlooked. One was with regard to the experiment of open access—it was not in an experimental stage just now, but it was an experiment—and the next, which was still in an experimental stage, was the abolishing of the newsrooms. These two experiments had only been possible owing to the number of libraries which had gone through the mill. There was no doubt that great praise was due to these gentlemen who had put these experiments into operation; but it was not fair to blame these libraries which were not able to put them into operation, because it was not in every library nor in every town that they could be used. Architects blamed librarians and their committees for the restrictions put upon them and the ignorance displayed in the initial stages of the building. But it was not always the case outside London where a neighbour was a stranger. In a country town, where everyone knew everyone else, a committeeman or councillor was buttonholed at every street corner to hear at great length the views of his constituents. The ignorant public who had been educated in the different towns by the free libraries were the ultimate masters of the situation. It was useless to say that the committee or the librarian was to blame—it was the public. It was only in those places where the library had done a little that one saw the reason for other libraries doing a great deal.

Mr. E. GODFREY PAGE [*A.*] said he thought there was something to be said from the architect's, the librarian's, and the ratepayer's points of view against the open-access system, which had been almost ignored that evening. First, as to spacing. Mr. Brown said there ought to be 5 feet 6 inches between the stacks. At Mr. Brydon's library in Chelsea (recently altered by the Chairman) which had the indicator system, the space clear between the bookcases was 2 feet 4 inches, and that was enough. If 1 foot 2 inches for a double stack was added, it gave a centre spacing of 3 feet 6 inches as against 6 feet 8 inches for open access, or almost double. If this were true with a small library, it was doubly true with a large one, because one could not send the people in an "open-access" system up tiny spiral staircases; so that the superficial area was nearly four times as great in libraries of over 50,000 volumes, and nearly double in libraries under 50,000 volumes. The space that Mr. Duff Brown said was lost by the counters could always be utilised as the hall or way to other departments, and became insignificant. In Brighton the open-access system had been altered to the indicator system, for the ostensible reason that thefts were large, and Mr. Angel could take this as a reply to his query. He relied on the *Sussex Daily News* for that, and he believed it was correct. There was another objection. Pretty schemes could be seen on paper with bookcases radiating from the centre like a star, and the assistant in the middle was supposed to see right down the room; but if there were one or two people near the centre, he could not see beyond them, and the whole theory of the thing was crippled. Judging, however, from what many librarians had said to him on the matter, the strongest objection was not theft, but muddle, because a person coming, say, into the fiction department would take a book out of one bookcase, and he or she—generally she if it was fiction—not being quite sure whether she liked it or not would wander round the building with the book under her arm, and in the end, having decided on another, would have no idea what case she had taken the book from, and would put it on any shelf where there was room for it. Librarians told him that they had always to take books out of the wrong and put them into the right places, and that the amount of time thus lost in a year was very large indeed. He thought there were therefore two very real objections to open access, viz., (1) that the cost must be very

much larger, and to any architect who had met a committee face to face with the rigidity of the awe-inspiring penny rate this was very practical politics indeed; and (2) that the supervision was necessarily less, not so much because of theft, but because of the muddle involved in allowing the public to have uncontrolled access. This was a vital matter to all librarians and all committees anxious to keep down the number of assistants. To show that the indicator was not doomed, it might be mentioned that within the last few years two new indicators had been put on the market, and that both had had large sales all over the Empire. He should like in thanking Mr. Duff Brown for his Paper to ask if he could remedy one evil. His book—the best text-book for architects, librarians, and committees—was out of print now, and could not be got either from bookseller or publisher.

Mr. FRANCIS HOOPER [*F.*] said he should be glad to say a word in support of the vote of thanks, which undoubtedly was most deserved. While they had a great deal of food for reflection, there was one matter they might commend to the Institute Council. They had heard a good deal about the open-access system, and he thought many members would appreciate an attempt to carry out the system in their own library; he thought it highly desirable to employ skilled joiners to take the hinges and locks off the cases in the Institute library rooms.

Mr. J. OSBORNE SMITH [*F.*] pointed out that in the London Library, St. James's Square, which contains 300,000 volumes, the spaces between the gangways were two feet three inches wide, showing it was not necessary to have enormously wide corridors to get access to books.

Mr. H. V. LANCHESTER [*F.*], referring to suitable material for floors, said that recently in the United States he had seen an excellent material which was very silent and comfortable to the feet, and was said to last for an interminable time. It was called rubber-tile flooring, and was being introduced, he believed, over here. There was, however, one drawback to its use. He asked its cost. "Not very expensive," they said, "1·90 dollar per foot." That would be about 7*s.* or 7*s.* 6*d.* a foot! One of the speakers that evening had advocated a briefly annotated catalogue. He (Mr. Lanchester) was unwise enough a little while ago to belong to a library with a mediæval name ("The Tabard"), and they sent him an annotated catalogue. It contained such notes as "a book of romantic interest of the Mediæval Period"; of another book "with a strong scientific bias running through it": and when he had got through two or three pages of the catalogue, he felt he did not want to read any book at all. The annotated catalogue, he thought, was enough to upset anybody's taste for reading.

Mr. JOHN FROWDE, Chief Librarian of the Bermondsey Public Libraries, said that, listening to the Papers and discussion, he rather had the feeling of being at a Library Association meeting at Hanover Square than at the Institute of Architects. The whole of the discussion seemed to have revolved round one point, and that the least interesting point in library architecture—viz., "open access." With regard to consultation between the architect and the librarian, he was not sure that that was always a good thing. He could quite understand that nowadays no architect would plan a building for a public library unless he first of all consulted or utilised the best ideas that had gone before. Whether he did that in consultation with the librarian or not appeared to be almost a matter of indifference, for this reason: there were librarians *and* librarians, as there were architects *and* architects. Some librarians could not in the least direct or advise an architect, and for that reason he considered that an architect who relied largely upon his own knowledge and his own experience would act quite as well as by taking into consultation with him the average librarian on the planning of buildings. A librarian, as a rule, knew all about his books, but he must confess that he was not a success as an architect, and from that point of view, while the architect might adopt broad general lines from the librarian, it would be a mistake for the architect to permit himself to be led into details by the librarian. He was sorry the discussion had revolved so much round open access. One of the speakers had said that "closed" libraries did not appear to have a defender in the room. He (the speaker) might be an inefficient defender, but he stood as a defender of the closed-library against the open-access system for the reason that he had read, heard, and seen a good deal about it, and he would like architects not to go away from that room with the idea that the open-access system had proved the great success that was claimed for it. He would like architects to realise that there was a very great difference of opinion indeed upon this question, and that the balance of opinion was not on the side advocated by Mr. Brown and some others present. He had seen "open-access" in practice in reference libraries a good many years ago. He remembered the Liverpool Reference Library being specially planned for that purpose and fitted up admirably with special alcoves and reserved places, such as Mr. Brown advocated for readers, where they could be quiet and reserved, and get all the books they wanted, and pen and ink, and that kind of thing. The result was that it was abused, and the privilege had to be withdrawn, and remained withdrawn to this day, except for certain books of comparatively small value which might easily be replaced. He thoroughly agreed with the suggestion of a gentleman sitting near him, that if architects and librarians were asked to put their own libraries into an open-access system, they would rebel at once; but in dealing with other people's property it was a very simple matter to advocate open access. With regard to the loss of books, that was a well-known fact. It might not

be the case in every library, but it was in many libraries, especially in America, where the new development of this idea came from. It was only necessary to read the reports of public libraries in America to get ample evidence of this loss even to the extent of hundreds of books a year from individual libraries. He gave that, not as a matter of opinion, but on the actual reports issued by the authorities.

THE CHAIRMAN, in putting the vote of thanks, said he himself would not pose as an expert on the subject. They had heard, however, several experts who seemed to differ, but perhaps that was only natural. He had to confess that his sympathies inclined to the "open access." It might not be the most economical from the floor-space point of view, or from the number of volumes lost or stolen; but, so far as he could judge, it seemed to him the best, and, if it was the best, surely it might be worth a little sacrifice of floor space and a few volumes of fiction per annum. His knowledge of the subject, however, was limited, and he would not weary them on the matter. He was something like Mr. Adams: he also had been pitted in competition against Mr. Hare, and he could only say that if anybody came into competition with Mr. Hare he was lucky if he did not come out somewhere towards the tail-end. Mr. Hare's planning, as they all knew, was admirable, and they were particularly fortunate in having had this Paper from him. Mr. Brown had also given them several new points to think about, and they were greatly indebted to him.

MR. J. DUFF BROWN, in acknowledging the vote of thanks, referred to some of the points raised during the discussion. As regards losses in open-access libraries, where the stock was properly safeguarded the loss was insignificant. Clerkenwell, the first open-access library in this country, during the first ten years of its experience had lost two hundred books—an average of twenty per annum. The books were of insignificant value, such as text-books, taken away probably for use, not for sale. Against that must be put the saving effected by not having an indicator. That in itself was an insurance against loss for twenty, or thirty, or forty, or fifty years, according to the size of the library. The American losses alluded to by Mr. Frowde were easily explained by the fact that the system in American libraries was different. One need not have a ticket at all, and need not register as a borrower. Anyone off the street could enter a library and roam about the place, and go out with a book in his possession. That accounted for the disappearance of books in the American libraries. It was merely a matter of system. The same held good with regard to the British Museum. One speaker had said that the access was much more difficult there. But it was exactly the same. The only difference between a municipal library and the British Museum with respect to borrowers was the age limit, which was twenty-one in the British Museum, and in the municipal libraries it was as low as eight. The same formalities must be gone through as regards guarantee and signing a form. One speaker mentioned the disturbance caused by people in open-access libraries discussing the books before them, and the freedom of indicator libraries from such an infliction. It was quite the reverse. In the open-access system only the ticket-holder was admitted, whereas in the indicator library a reader might come in with half his family and block up the space before the indicator. No municipal library in this country or in America had abandoned the open-access system. The only library he knew of which had gone back to the indicator system was the Bishopsgate Institute, and that was not a municipal library. With regard to misplacement of books, especially fiction, in an ordinary open-access library there was usually no fiction to misplace; it would be all out, in the possession of borrowers, and any misplacement in the non-fictional department did not take half an hour a day to put right. In the North Islington Library, with nearly sixteen thousand borrowers in one branch, the misplacements, where the average issue was something like twelve hundred books a day, did not occupy more than half an hour in the morning to put right. With regard to the balance of opinion being against open access, that was quite natural. The closed systems had been in existence since the Public Libraries Acts came into force in 1850, and it took a long time to make headway against such an accumulation of years. The anti-open-access opinion was very largely held by people who had had no experience of the system. With the people who had used the system, and used it properly with the proper safeguards, and who had arranged everything in a scientific way, the experience was quite different, and there was no thought of abandoning the system. He thought occasional conferences between architects and librarians would be a good thing. There were many small points which wanted threshing out.

MR. HENRY T. HARE said he had rather been hoping that someone would have attacked the plans he had put forward. He had quite expected some of the librarians present would have expressed the opinion that his proposals would not work, and that was one of his reasons for putting them forward, so as to have them discussed. Somebody, in referring to the open-access system, had remarked that it took a great deal more room. Of course it did, and it was a great deal more expensive in staff and everything else than the indicator system; but the great question was whether it was more useful than the other; and as to this there could be no doubt.

Church would no doubt elevate it above the altar. But as it is, the font is the second ornament, without which no church is complete.

I may also remark that a view of an altar should

The investments have been increased by the purchase of £1,186. 17*s*. 9*d*. New Zealand Three per cent. Inscribed Stock for the sum of £1,067. 13*s*., which raises the total of amount of invested capital to £15,506. 7*s*. 5*d*.

The thanks of the Society are due to the A.A. Musical Society for the donation of part of the receipts of a students' concert.

Seven meetings of the Council have been held during the year.

The following gentlemen, being the five senior members, retire by rotation from the Council:—Mr. Rowland Plumbe, Mr. G. T. Hine, Mr. Ambrose M. Poynter, Mr. William Grellier, and Colonel R. W. Edis. To fill the vacancies caused by these retirements the Council have the pleasure to nominate Sir Henry Tanner, Mr. Edwin T. Hall, Mr. Lacy W. Ridge, Mr. John T. Christopher, and Mr. J. Douglass Mathews.

The Council have also the pleasure to nominate Mr. Henry T. Hare as a Vice-President.

The cordial thanks of the Society are due to the Royal Institute of British Architects for office accommodation and for the use of rooms in which to hold their meetings, and to the Secretary and Staff of the Institute for their help in many matters connected with the Society.

Revivals.

In a Paper on Revivals read before the Edinburgh Architectural Association last week, Mr. F. C. Mears, *Pugin Student* 1904, said that in times of unsettled conviction revivals were attempted, not by architects alone, but also by workers in other branches of thought who admired and tried to restore to life certain features of a former age. Great architecture is of two kinds—that produced by a whole people expressing their highest ideals in their buildings, and that of a very rich people building magnificently and employing mercenary labour. The finest of sculpture and the other arts is an organic part of the former, while the latter is merely covered with rich detail. The motives of revivalists may always be traced according as they revert to one or the other of these types. Mr. Mears traced the influence of the primitive building of East and West on even the most advanced work of later times, and gave examples of the unsatisfactory result of trying to combine the two kinds of work, *i.e.*, the architecture of great rivers and plains, of which Egyptian and Greek are types, and that influenced by the sea and mountains, which developed as Gothic. Of modern builders, the engineers best show this Western feeling in their works, which both on land and sea have a common quality of rightness, a quality necessarily lacking in revival work, which is obliged to compromise. With regard to the covering of the dry bones of engineering, modern painting and sculpture usually combine well with it, since all three are absolute expressions of natural fact, and it is probable that in this combination by the architect-engineers of the future, there may be the beginning of a new architecture which shall be true to its age.

Sir Aston Webb, R.A., who has been appointed Rede lecturer for the current year at Cambridge University, will deliver the lecture on the 8th June in the Senate House of the University.

MINUTES. X.

At the Tenth General Meeting (Ordinary) of the Session 1906–07, held Monday, 18th March 1907, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair, 33 Fellows (including 11 members of the Council), 42 Associates (including 1 member of the Council), and numerous visitors—the Minutes of the Meetings held 4th March 1907 [pp. 339–40] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the Chairman—viz., Frederic Wykeham Chancellor, M.A.Oxon. and Thomas Francis Tickner, *Fellows*; Sydney Jaques, Joseph Reginald Hobson, and Digby Lewis Solomon, B.Sc.Lond., *Associates*.

Papers on Public Libraries by Henry T. Hare [*F.*] and James Duff Brown having been read and discussed, a vote of thanks was passed to the authors by acclamation.

The proceedings then terminated, and the Meeting separated at 9.50 p.m.

REVIEWS.

THE AMERICAN VIGNOLA.

The American Vignola. Part II. By Professor W. R. Ware, Massachusetts, U.S.A. Scranton. International Text-book Company, 1906. [*Batsford*, 94 *High Holborn*.]

The first part of the American Vignola, by our honorary and corresponding member, Professor Ware, was reviewed in our Journal for 23rd May 1902. It treated of the five Roman Orders, and was supplemented by chapters on the intercolumniation and superposition of columns, and on other details. The present publication deals with the employment of the Orders in the composition of doors and windows, and the decoration of wall-surfaces, and with arches and arcades, vaults and domes, staircases, &c.

The first chapter, dealing with arches and arcades, might have been included in Part I., as the combination of the attached column, with arches between, was virtually a Roman Order, and the only one which the Romans can claim to have invented. It would also have avoided the difficulty of separating the superposed Orders treated in Vol. I. from that of the superposed arches between attached columns dealt with in Part II. As a matter of fact, superposed isolated columns were scarcely ever employed by the Romans, the only example known being the Septizonium, of which the remains in the sixteenth century were in too ruinous a state to allow of any rules being laid down for their relative proportions. This difficulty has apparently been realised by the Professor, for on page 3, speaking of the superposition of arches, he states,

line 25, "They follow the same rule that governs the superposition of colonnades," which he repeats and then drops the subject without showing its application in the case of the superposition of arches. There are, however, no rules to be prescribed for the latter; they are entirely subservient to the intercolumniation of the attached Orders, and fill the space between the same and the entablature with such varying proportions, as regards their width and height, as the intercolumniation allows of, the only rule being that on the lower story the width of the impost pier shall be half the diameter of the column. Thus, in the two earliest examples, the Tabularium and the Theatre of Marcellus in Rome, the columniation, *i.e.*, the distance between the axes of the columns, being five diameters only, the height of the archway is much more than twice the width, whereas in the Doric and Ionic superposed arches, Plate III. (where Professor Ware has adopted the best proportions of 6¼ diameter for the columniation), the height is less than twice the width. In the admirable plates which Professor Ware has had specially drawn of the arches on one story only or superposed, he has virtually exhausted the subject, and they should be of great service as well to the professional architect as to the student.

These plates are followed by others on vaults and groins, in which we are glad at last to find an illustration of the *voûte-en-arc-de-cloître*, the cloister vault, no account of which is given in any English publication. We confess, however, to receiving a shock when we came to Plate IX., and wondered what the gabled roofs of the Rhenish churches had to do *dans cette galère*: we trust that the American architects will not take the hint and crown their skyscrapers with Romanesque gabled roofs.

Domes and cupolas, of which there are only, besides woodcuts, two plates, XIII. and XV., might be extended, as the dome is by far the most important architectural feature developed by the Italian revivalists.

Professor Ware in the preface to Part I. led us to hope that towers and spires would be included in Part II. We are in hopes, at all events, that in Part III. he will take up these two subjects, keeping clear, however, of Romanesque and Gothic examples, and will then return again to domes and cupolas, and possibly to that subject to which the greatest importance has always been given in the Ecole des Beaux-Arts, viz., the study of plans of great buildings. An analysis of the plans of the Palaces of the Cæsars, of the Thermæ, and of the Forums at Rome, on which the students of the French School base their conceptions, would be of the greatest value.

The twenty plates which accompany the volume seem all to have been specially prepared for this work, and are not only reproductions from already published examples, with the possible exception of Percier & Fontaine's remarkably fine staircase in the Louvre. They are all beautifully drawn with a clear and distinct line, those which appeal to us most being Plate III., illustrating superposed arches; and Plate XVII., circular staircases, which is a marvel of execution and careful setting-out.

R. PHENÉ SPIERS.

CARPENTRY.

Modern Practical Carpentry, for the Use of Workmen, Builders, Architects, and Engineers. Containing a full description of the Methods of Constructing and Erecting Roofs, Floors, Partitions, Scaffolding, Shoring, Centering, Stands and Stages, Coffer Dams, Foundations, Bridges, Gates, Tunnels, Excavations, Wood and Half-timber Houses, and Various Structural Details. Together with New and Simple Methods of Finding the Bevels in Roofs, Setting out Domes, Steeples, &c.; an Account of Failures in Construction and the Theory of Trussing Frames. Also including a Concise Treatise upon Timber; Notes on the Woods used in Carpentry; Various Tables; a Glossary of Terms and Phrases connected with Carpentry, and a Chapter on the Uses of the Steel Square. By George Ellis, Author of "Modern Practical Joinery," &c., Vice-President of the Incorporated British Institute of Certified Carpenters. 4o. Lond. 1906. Price 12s. 6d. [B. T. Batsford, 94 High Holborn, W.C.]

Coming at a time when steel is more and more taking the place of timber, a book on carpentry may seem out of place. But Mr. Ellis has dealt so thoroughly with every detail of the craft that all who have to do with building must be interested in his work.

Commencing with a chapter on tools—and it is pleasing to note Mr. Ellis does not think the adze entirely a thing of the past—then following with descriptions of joints and fastenings, all the many forms of timber construction, both temporary and permanent, are dealt with in detail, including the methods adopted by the workmen in "setting out."

Among the many illustrations it is difficult to select any particular ones as of special interest. The zigzag partition, page 45; an American idea for sound proofing, Plate 1; a practically worked-out example of intersecting trusses; the American timber bridge, Plate 22; and the temporary stand for a shop window, page 155, may help to show the extent and variety of the subjects dealt with.

A well-illustrated chapter on half-timber work, both ancient and modern, is given, with others on causes of failure in construction: notes on timber, including classification and description of market forms.

Mr. Ellis in his preface claims to be a practical man writing a complete treatise on the whole craft of constructive carpentry, from the proper method of making a mallet to the constructon of a cathedral dome; and as far as possible in a book of 400 pages and 1,100 illustrations his book justifies the claim and may be recommended to architects for reference, and to students in preference to some of the works written specially for them.

THOMAS DAVISON.

STEEL CONSTRUCTION.

Notes on Construction in Mild Steel. Arranged for the use of Junior Draughtsmen. By Henry Fidler, M.I.C.E., Longmans' Civil Engineering Series. Price 16s. net.

The author of this book remarks in his preface "that between the carefully calculated stress sheet or correctly drawn graphic diagram and the completion of a working drawing which shall successfully pass the ordeal of criticism . . . there is sometimes found a gap . . . and it becomes evident that the ability to produce . . . a correct graphic analysis and the ability to design a sound riveted connection are not quite one and the same thing." To assist the designer in bridging this gap is the chief purpose of this book. The text is divided into seven chapters, dealing with (1) manufacture of the steel, (2) sections in general use, (3) riveted girders, (4) columns and struts, (5) roofs, (6) marine works, and (7) protection from corrosion. The chemical constituents of steel and their influences upon its physical properties having been discussed, tests of the latter are dealt with, and the results of nearly nine hundred tests for ultimate tensile strength and elongation of mild steel are individually given, in addition to tables showing several hundreds of results of tests of cast steel and wrought iron, and some chemical analyses. The second chapter treats almost entirely of the "Mechanical Elements" of the rolled sections in common use for structural purposes.

The chief interest of the book for those to whom it is primarily addressed lies in the third, fourth, fifth, and sixth chapters, as they deal directly with constructive and practical details which will be of everyday use.

In his chapter upon roofs the author refers to "recent events" which have drawn attention to possible flaws arising from defective blacksmithing, and to the view now sometimes expressed that a duplication of tension members in large roof trusses may be desirable; but, in discussing the difficulties connected with welding and the devices adopted to obviate them, he makes no mention of the ordinary workshop method of testing welds in bars by heating the metal to a red heat close to one side of the weld and noting whether the colour flows uniformly past the weld or not. If there is a fault of appreciable size, this rough test will expose it. Among the notes in this chapter will be found details of the results of experiments to ascertain the rate of discharge of water from a roof gutter—a matter of some practical importance upon which little or no definite information is to be found in the ordinary text-books of building construction.

From the point of view of the architectural draughtsman the ninety pages or so devoted to marine engineering would have been better occupied by further notes upon skeleton steel structures, although the instructiveness of the careful discussion of a few special cases such as those given will readily be admitted. Upon the question of protection from corrosion there are some useful observations, but nothing to indicate that we may hope for any really permanent and generally applicable means of checking oxidation. It is interesting to note that the author is very guarded in his reference to the protection of ironwork by embedding it in Portland cement or concrete; in fact, he plainly (and very truly) says that the condition of much iron and steel so embedded is "greatly a matter of speculation." Let any who are tempted to dabble in certain relatively new types of construction which are undoubtedly ingenious and theoretically correct first ponder well these words of Mr. Fidler. Some disconcerting facts can be elicited concerning the state of embedded metal after the lapse of some years, and it would be very useful if a collection could be made of notes of actual observations upon the subject, gathered from those upon whom the duty of maintaining such work has fallen.

The book, as a whole, should be of interest and value not only to younger students, but also to those architects who have not had the advantage of experience in the workshops. It suffers a little from the considerable length of its chapters and consequent difficulty of readily referring from the table of contents to the subject-matter; while the index, though not bad, might be much improved. The importance of exhaustive indexing in any technical book cannot be too often urged, and should be borne in mind when another edition of this book is, as it probably will be, called for.

MATT. GARBUTT.

TRAJAN'S COLUMN, ROME.

"Io dico di Traiano imperatore."—DANTE.

THE *Nuova Antologia* of the 1st November 1906 publishes an article by Cavaliere Boni [*H.C.M.*] on the origin of the legend which has acquired a poetical setting in the tenth canto of the *Purgatory* of Dante. The article is illustrated by forty photogravures, taken from sculptures, drawings, frescoes, engravings, tapestry, majolica, and bronzes, both Mediæval and Renaissance, showing how the legend of Trajan and the poor widow grew from century to century and from country to country.

There are two sources from which the legend is derived: one, a bas-relief with the poor woman in tears in act of supplication before Trajan—

> 'Tis of the Emperor Trajan I am speaking;
> And a poor widow at his bridle stood,
> In attitude of weeping and of grief.
> Around about him seemed it thronged and full
> Of cavaliers, and the eagles in the gold
> Above them visibly in the wind were moving.
>
> *Purg.* canto x. 76-81—

and the other the monument of the emperor himself, the statue on "which Pope Gregory turned to behold and caused the tomb to be opened."

The bas-relief does not depict the customary kneeling provinces, but a symbolical representation of a military road adapted to disperse cavalry, the standards of which are replaced by banners, the legionary eagles being of metal and not capable therefore of fluttering in the wind.

The origin of the legend is to be found in a bas-relief of the second century which is now built into the Arch of Constantine.

In investigating the sepulchral column of Trajan in support of the legend, first set on foot at the beginning of the seventh century, many difficulties arise, inasmuch as modern critics denied its *raison d'être* and repeated the dictum, gathered from Dion Cassius, that the column marked the height of a hill which had been removed.

The religious character of the monument dedicated to Trajan during his lifetime being thus obscured, it became necessary to drag from oblivion the funereal chamber; and the opportunity having occurred it was considered desirable to wall up a vault excavated prior to the eleventh century in the rock beneath the pedestal, and to trace the fragments of the base chipped off in the descent of the statue. Having regard to the stability and re-integration of the monument the exploration has been the means of ascertaining and recording many things unknown or forgotten.

The Column of Trajan was not comprised in the original design of Appolodorus, as it entrenched upon the area of the Forum Ulpium and did not show any cutting away of the rock or work of excavation, inasmuch as the area itself covers the remains of ancient streets and pre-existing buildings. This is not the testimony of works of excavation, but of the monument consecrated to Trajan between the basilica where he administered justice and the library, rich in whatever survives of Greek and Latin thought.

The vestibule of the pedestal has not only a door on the right by the staircase, but another on the left, leading to a small dark area adjoining the tomb. The sepulchral chamber, closed by three bronze doors, is five feet wide, ten feet long, and six feet high, and is lighted by an opening splayed on the inside like the loopholes in the circular staircase. Here was placed a monolith, a table large enough to receive two urns with the ashes of Trajan and the empress Plotina.

Arms and ensigns like the trophies on the tumulus of a hero are sculptured round the pedestal, with the vigilant eagles at the angles connected by garlands of oak.

A marble crown of laurel forms the base of the column around which winds the sculptured commentary of the Dacian wars, similar to the columns in front of the tumulus of the gens Julia. A statue above the capital exalted Trajan to the ranks of the immortals in testimony of his words and works.

The recent researches carried out with systematic methods of stratigraphic analysis at the tomb of Bibulus, in the hemicycle of the Atrium on the slope of the Quirinal, demonstrate that the dedicatory inscription on the Column of Trajan has unfortunately been misread—like the *Pancion* of Alexandria, *ad declarandum quantæ altitudinis mons et locus tantis operibus sit egestus*, which consigned to oblivion the dedication of the Senate and the Roman people, expressing its destination by euphemistic silence.

The analogous exegesis of the inscription (evidently composed by disciples of Quintilian) is supported by numerous pavements (*strati*) of the First Empire, the Republic and the archaic age, deep in the valley, where, higher than other lofty buildings and even the basilica Ulpia itself, the Coclide Column rose to show, a hundred feet from the imperial tomb, the height to which were raised by mighty works the mount and the plain.

The story of Trajan and the widow is told in nearly the same words as Dante, though in prose, in the *Fiore di Filosofi*, a work attributed to Brunetto Latini, a contemporary of Dante.

As told by Brunetto the story runs thus. Trajan was a very just emperor, and one day, having mounted his horse to go into battle with his cavalry, a woman came and seized him by the foot, and, weeping bitterly, besought him to do justice upon those who had without cause put to death her son, who was an upright young man. And he answered and said, "I will give thee satisfaction when I return." And she said, "And if thou dost not return?" And he answered, "If I do not return, my successor will give thee satisfaction." And she said, "How do I know that? And suppose he do it, what is it to thee if another do good? Thou art my debtor, and according to thy deeds shalt thou be judged. It is a fraud for a man not to pay what he owes; the justice of another will not liberate thee, and it will be well for thy successor if he shall liberate himself." Moved by these words the emperor alighted and did justice, and consoled the widow, and then mounted his horse and went to battle and routed his enemies. A long time afterwards St. Gregory, hearing of this act of justice, saw the emperor's statue and had him disinterred, found that he was all turned to dust, except his bones, and his tongue, which was like that of a living man. And by this St. Gregory knew his justice, for this tongue had always spoken it; so that when he wept very piteously through compassion, praying God that He would take this soul out of Hell, knowing that he had been a pagan, then God, because of these prayers, drew that soul from pain and put it into glory. And thereupon the angel spoke to St. Gregory and told him never to make such a prayer again, and God laid upon him as a penance either to be two days in Purga-

tory, or to be always ill with fever and side-ache. St. Gregory, as the lesser punishment, chose the fever and side-ache.

"The inscription on the pedestal of Trajan's column cannot be understood literally. According to it a mass of hill equal in height to the whole monument (*i.e.*, 120 Roman feet)* was cut away. The inscription is:

Senatus . populusque . Romanus . imp . Cæsari . divi . Nervæ . f . Nervæ . Traiano . Aug . Germ . Dacieo . pontif . Maximo . trib . pot . XVII . Imp . Cos . VI . p . p . ad . declarandum . quantæ . altitudinis . mons . et . locus . tant . (is . oper) . ibus . sit . egestus.

Brocchi (*Suolo di Roma*, p. 133) has shown from geological evidence that the ridge can never have approached the height of a hundred feet, and he suggests that the inscription means that the hill was cut back in a slope to a point where the Quirinal was a hundred feet high—a very probable explanation.†"

Professor Middleton, referring to a bas-relief on the north side of the Arch of Constantine removed by Constantine from Trajan's forum, observes: ‡ "Some such relief as this [representing Trajan surrounded by attendants with figures below, among whom is a female with a child] was probably the origin of the beautiful story of Trajan and the widow quoted by Dante, *Purg.* x. 73-93."

JNO. HEBB.

THE PROBLEM OF ARCHITECTURAL EDUCATION.

THE reports presented year by year by the Education Committee of the American Institute of Architects have been for several years among the most important contributions to the proceedings of the annual conventions of American architects. In 1894 the then Chairman, Mr. Henry Van Brunt, in a thoughtful and comprehensive Paper, drew attention to defects in the upbringing of young men intended for the architectural profession, and laid down certain well-defined lines of improvement. Mr. Van Brunt considered that the condition of architecture as a fine art, in spite of indications of recent advance in academic scholarship and in technique generally, was unsatisfactory, because no healthy progressive principle had yet become apparent. The progress had been rather of personal enterprise and skill than of principles, and there seemed at present little prospect of any large or characteristically national fulfilment. Mr. Van Brunt contended that as architecture was now in the hands of men of education, we ought to consider whether this education could not be such as to inculcate convictions, to make our young architects the agents of a far more definite and orderly progress, and to inspire them with a certain consciousness of duty in respect to the development of a system of architectural forms less conventional in character, and more accurately adjusted to the expression of our new life. As the true basis of architectural composition of the highest sort is to proportion and to decorate structure, and as structure is constantly developing with new methods, new devices of engineering, and new materials, the architecture of the immediate future must necessarily assume new character, at least in its outlines, supplanting to a great extent those classic or romantic details or standards which custom has arbitrarily imposed upon modern practice. Are our present methods of education, Mr. Van Brunt asked, preparing our young men to accept these inevitable changes without a wasteful and futile effort to effect a reconciliation between ancient academic prejudices and these new things? Do we not need a much more scientific co-ordination of precedent, a much more philosophic analysis of the architecture of the past, than is secured by our present methods of education? The question is, not how are we to effect a compromise between engineering and architecture, but how are we to convert engineering into architecture—how are we to use the immense resources of beautiful precedent at our command in order to translate this prose into the poetry of a high art? Let the schools teach our young men not to conceal or disguise or condone in a mask of cold convention the inevitable changes of form which must come in process of time with the changes in our social and economic conditions, but to welcome them frankly, and to express them, not with quotations from other tongues, not with the affectations and pedantries of academical learning, but with the large freedom derived from a comprehensive knowledge of all that has been done or said in forms of art by all people. Mr. Van Brunt disclaimed all idea of "any such folly as the deliberate invention of a new style," or any possible amalgam of old styles; his point was the practicability, by an analytic study of precedent, without arbitrary preferences, of applying to the art of our times a synthetic method of evolution. Our art should be an art of scholars and artists, not of antiquarians, nor of amateurs, nor of pretenders. Our architects should be instructed and inspired by the past, not controlled by it.

Mr. Van Brunt's Paper had the effect of stimulating inquiry and awakening discussion upon the methods of architectural training in vogue throughout the country; and, as an immediate result, the Education Committee were charged to communicate with the principals of the various schools, to ascertain their views, and to accumulate data as to what was actually being done in the schools. From this period the American Institute, through its Education Committee, has been in constant touch with the various schools of architecture, the ateliers, the club classes, the Beaux-Arts Society, &c.; and

* A Roman foot = 0·972 English foot according to Penrose.

† Middleton, *Ancient Rome*, ii. 24-5. ‡ *Ibid.* ii. 36.

the Committee's reports at the annual conventions have kept the profession regularly informed as to the exact nature of the training the rising generation of architectural students were receiving at these institutions. From the latest report, which is printed below practically in full, it would appear that the Committee are satisfied with the sufficiency of the data collected, and that they consider themselves in a position to state the case and put forward some inferences and conclusions. The Committee consisted of Messrs. Ralph Adams Cram (Boston), Chairman; John M. Carrere (New York), Wm. M. Kendall (New York), R. Clipston Sturgis (Boston), S. B. P. Trowbridge (New York). The Report states that this Committee, made up of superficially diverse types, has found itself absolutely unanimous even in matters of detail. After some months of individual study, the Chairman asked each member of his Committee to embody his conclusions and recommendations in the form of a tentative report. These were examined at a meeting of the Committee, and, with the report of the Chairman, were found to be identical in spirit and in matter.

The Committee's joint report was presented at the American Institute's jubilee convention last January. Omitting passages of more local interest, the report is as follows:—

Architecture we defined as a Fine Art with three aspects: as a manifestation of pure beauty, as an enduring and trustworthy language that voices the existing best in civilisation, and as an exact science, through its structural relationships.

An architect we defined as one ranking in the class of men of culture, learning, and refinement, differentiated from the others of his class solely by his function as a creator of pure beauty, as an exponent through material forms of the best secular, intellectual, and religious civilisation of his time, and as an organiser and director of manifold and varied industries and activities.

From these assumptions, it follows necessarily that the object of architectural education must be the breeding of gentlemen of cultivation, learning, and broad sympathies, who understand the dignity and significance of art both as beauty and as language, who are perfectly proficient in the technique of the art they follow, and who can inspire, organise, and direct widely different classes of men.

Such was our view of the general situation and our unanimous conviction as to the essential nature of any sound system of architectural education. Examining the various agencies in America in this light, and that we might see how nearly they approached, severally and in mass, to the principles indicated above, we found them to consist in two forms: first, the elementary, *i.e.*, the "architectural classes" connected with public instruction and philanthropic societies, and the "correspondence schools"; secondly, the academic, *i.e.*, the regular schools of architecture; the voluntary combinations under the control of certain groups of architects, such as the independent *ateliers*, and the *concours* of the Beaux-Arts Society, and the American Academy in Rome.

The elementary systems we have been compelled to disregard for the time being, but we believe they demand the closest scrutiny, for while they may give a certain plausible dexterity to boys ambitious of becoming architectural draughtsmen, they cannot be considered as systems of education, since their methods are superficial and rudimentary, the taste they inculcate frequently questionable, while they do nothing towards creating the basis of broad, general culture which is absolutely and primarily essential. Furthermore, we believe that these elementary systems may, and in some cases do, accomplish serious harm through inducing boys temperamentally unfitted for one of the most noble and exacting professions to throw themselves into an impossible career through misrepresentations to the effect that "architectural drafting" is only a trade, to be acquired as easily and by the same methods as stenography. We believe the Committee on Architectural Education may be of great assistance to the elementary schools, and indirectly to the architectural profession, by volunteering its friendly services in an advisory capacity, and we commend both this, and the close study of the systems themselves, to our successors in this Committee.

The Academic agencies may be divided again into two categories: one made up of those which aim to give a complete and final education, viz., the regular schools of architecture supplemented by the Roman Academy; the other of those whose object is to develop, through a special insistence laid on certain points, necessary elements in the equipment of an architect which students and draughtsmen have been unable to acquire satisfactorily through their collegiate or practical experience—that is, the *ateliers*, the club classes, and the *concours* of the Beaux-Arts Society.

Now it is evident to us that none of the systems named above, is in itself, and independent of all other agencies, able to produce the combination of general culture, good taste, instinct for beauty and executive ability which make up the ideal architect. The architectural schools should, by their general training, do much towards the creation of broad and inclusive culture; they must ground their students in the history of art and civilisation and the correspondence between these two things; they will give him his fundamental knowledge of the essential elements of architecture as an art; they must enable him to lay the broad foundation on which he is to erect his superstructure of professional capacity, but the crucial point, the development of good taste, and the instant sense of beauty, they cannot touch through the scholastic agencies now marshalled to this end. We are unanimously of the opinion that this passion for beauty and this instinctive good taste may be inculcated, if at all, not through the methods of scientific pedagogy, but by the close personal relations and the keen enthusiasm that arise through the association of a group of students with a practising architect, chosen by the free will of the student because of admiration for, and sympathy with, his principles, his personality, and his achievements.

With the advantages of the *atelier* system comes a corresponding danger, that of a feudal following of one strong personality, and an unconscious exaggeration of his peculiar theories and methods. This danger is counteracted by the system of general competitions between the students in the several schools and *ateliers*, where each man, as representing each system or impulse, finds himself on a field of battle where individualism is put to the test and stands or falls by just so far forth as it has acquired universality.

This combination of the *atelier* and the *concours* is to a large degree the method introduced and followed by the Beaux-Arts Society, and we believe it essential in any scheme of architectural education; but so long as the *atelier* system is purely voluntary, and so long as the *concours* are conducted by a group of men without official status, and bound together by the traditions of one particular system and nationality of training, there is always the danger of an unwholesome predominance of one set of ideas, to the unintentional exclusion of others of equal value but of different origin. Such competitions conducted exclusively by advocates of Gothic or of *l'Art Nouveau* might conceivably defeat their own just ends.

Believing, therefore, that these two features of the *atelier* and the general competition are essential elements in any complete scheme of architectural education, and that to have their fullest effect they should become a part of the curriculum of every architectural school, we urge on the several schools the wisdom of action to this end, and on the Education Committee of next year consideration of the question how a scheme of general competitions similar to those now conducted by the Beaux-Arts Society, but official and universal, may be brought into existence.

In scrutinising the several schools to ascertain in how far each seemed to be working towards the development of the typical gentleman of general culture with special architectural ability, and acting on an unanimous opinion that design can best be taught, at least in its higher aspects, only through the personal influence of practising architects, while the instinct for beauty may be best developed by personal contact with those who already possess this instinct and the power to communicate it, we took the ground that the work of the schools should be considered primarily as a means towards the development of a man of general cultivation and as an agency for establishing sound and basic principles of art, which, through intimate contact with architects themselves, should be developed to their highest estate.

While our examination was necessarily limited, and, in view of the time at our disposal and the magnitude of the subject, even superficial, we feel that we are justified in saying that, if our assumption is correct, there is an apparent variation which is hardly explicable. between the systems pursued by the different schools, and while certain of them appear to be working on the lines we have indicated as, in our opinion, essential, there are others which seem to hold that special and technical equipment on the part of their graduates is the prime object of their training.

We are compelled to dissent from this latter view, holding that the object of architectural education, so far as the schools are concerned, is not the turning out of superintendents of building construction, clever and thoroughly equipped designers, or consummate masters of presentation, but rather men who, by their broad knowledge and inclusive sympathies, their familiarity with the comparative history of civilisation in all its aspects, their conversance with the art history of the world and their thorough grounding in the theory of art and the practice of design, are in a position to apply to the best possible advantage the practical experience that then must come through contact with the practising architect, both in the *atelier* and the office, and through the actual practice of the profession.

We desire, therefore, to urge on many of our architectural schools consideration of the question, whether they may not advisably diminish the stress now laid on purely technical education and strengthen that placed on all that tends towards general culture. . . .

In our investigation of the subject, many questions have suggested themselves as worthy of serious consideration. We do not feel that our data justify us in making a specific report on these matters, but we name them and commend their consideration to our successors in this committee.

They are as follows:

What do the schools teach as to the expressive function of art in general and of architecture in particular, *i.e.*, as to art as an index of civilisation, standing high or low in exact relationship to the civilisation that brought it into being?

What is the attitude of the several schools towards the various styles, *i.e.*, do they all, or any of them, teach that there are one or more styles which are sound and logical, while there are others which may or may not be interesting from an archæological standpoint only: If so, what?

What is taught as to the relationship between construction and function on the one hand, and design and decoration on the other, *i.e.*, is this relationship clearly brought out in the case of Classical, Byzantine, Romanesque, Gothic, Renaissance and modern architecture, or is it ignored; each style being considered as an abstract thing, regardless of its aspect as a manifestation of the close community that must obtain between function, construction, design, and decoration?

What are the criteria of judgment of design in the several schools, do they vary, and if so, to what degree?

How much attention is given to the question of presentation in each school? And is there apparently an undue amount of time and labour given to this in certain schools, an inadequate amount of time and labour in others?

In view of the fact that the practice of architecture is rapidly becoming so specialised that it is apparently necessary that a student should decide at the outset as to whether he should follow the esthetic or the structural line of work, is it not desirable that the schools should divide their courses in such a way that a student might elect which one he would follow, artistic or structural, there being in the case of the former a maximum of esthetic instruction and a definite minimum of structural education; in the latter a maximum of structural education, a definite minimum of that which is in its nature esthetic.

To give a general *résumé* of our conclusions, we report as follows:

The object of all education is to make more effective units. For this, the fundamental equipment is such knowledge of the language, literature, and history of one's own country as will enable him intelligently to take advantage of opportunities and such knowledge of the literature and history and art of other countries as shall give a broad general consciousness of what civilisation is. The possession of this knowledge is what is meant by cultivation.

When a man adopts a special branch of industry and thus limits his useful effectiveness to a distinct field, special training and knowledge are required in addition to general cultivation, which nevertheless remains the fundamental essential.

Schools of architecture are established for the purpose, first, of insuring the pupil in the possession of general cultivation; second, to give him a thorough technical equipment in the history and literature of architecture and in the laws that have been established by precedent; third, to make him familiar with present conditions and practice. In no one of these fields is his study completed in the school; he is simply started in the right way. In general cultivation and in a knowledge of the history of architecture it is essential that the student should be fully equipped, while his acquaintance with methods and practice may be, and indeed will be, largely acquired later.

It is on the first two, then, cultivation and the theory of design, that attention should be centred. Admirable as our schools are, it can do no harm to emphasise the point that they are training men to be intelligent architects, not skilled draughtsmen, and that manual dexterity is dearly bought if it is at the expense of intellectual equipment. Skill can readily be acquired with practice; nothing in practice quite takes the place of sound school training.

The schools should give the student a thorough grounding in the great architectural precedents and their application, and an intelligent understanding of them, so that he may know why they became established and to what extent they meet modern requirements.

Of prime importance are the classic orders, not for what they are in themselves, but because they are the terms, the language, in which a very large part of our architectural heritage is expressed. With a thorough knowledge of the orders and their application in Greece and Rome, one is in a position to understand the varied expression of the Renaissance in Italy, in France, in England, in Spain and in her American possessions, and here in the United States.

Almost if not quite equally important is the knowledge of Christian architecture; the whole development that followed on the fall of the Roman Empire, and which, through Syrian, Byzantine, Southern Romanesque and Norman, finally culminated in the wonderful architectural monuments of the Middle Ages. The one is the history of a great intellectual and sensuous movement, the other of a great spiritual movement. In both is the sense of beauty very marked, in both is construction recognised as the basis of all good architecture.

The knowledge of these things is fundamental for the education of the architect; ability to apply the knowledge is essential for practice. The student may learn *how* to apply his knowledge in the school, even though the real application of it comes later. It is in teaching the student how to apply his knowledge that the architect can be of real use to the teacher. The man in constant active practice, to whom the school is but an occasional occupation, brings to his work a spirit, an enthusiasm, a point of view, which are essential for the development of the critical faculty.

We believe that the more important work of the school, general cultivation, and the theory of design, which can best be taught by the trained teacher, should be supplemented on the less important side, the practice of design, by the active assistance and co-operation of the architect.

If this is to be done in the most effective way, unity, both of aim and of action, is desirable for the principal schools of architecture, so that those in charge, who are necessarily most familiar with the work, themselves may determine on the best methods.

This unification we are almost inclined to consider the crux of the whole matter. Important as they are, methods must be secondary to impulses. At present, it seems to us, not only does the idea of general culture as the indispensable basis fail of its due recognition—the general tendency being towards the development of the specialist, or *savant*, rather than of the well rounded and cultured personality with a special equipment for architectural expression—but architectural education in the United States tends towards an undue individualism and centralisation on the part of the several schools. Educationally, the architectural profession seems to be in about the position of the thirteen Colonies before the adoption of the Constitution—even before the ratification of the Articles of Confederation.

We believe that, on the whole, Architecture is being taught in America with a broader view, and in certain respects more effectively, than in any other country. Through co ordination, a unification of standards, and co-operation, we believe that in a few years the education offered in this country might be looked upon as final, except for the absolutely necessary element of study and cultivation through travel and research among the inimitable monuments of the pagan and Christian past. We object to considering our own schools merely as feeders for the Schools of Fine Arts in Paris, and we look forward to the time when a great Post Graduate course shall be possible in America through a great central School of Fine Arts in Washington. To make this possible, we must first of all achieve a certain amount of co-ordination, unification, and co-operation between all our now somewhat aggressively independent schools, and we believe that the first step in this direction would be the acceptance by all of the principle of general competitions, and the establishing of an official, central, and representative body that should put this principle into practice.

SUNDRY DRAUGHTS AND PLANS BY HUNTINGDON SMITHSON, OF BOLSOVER.

By Maurice B. Adams [*F.*].

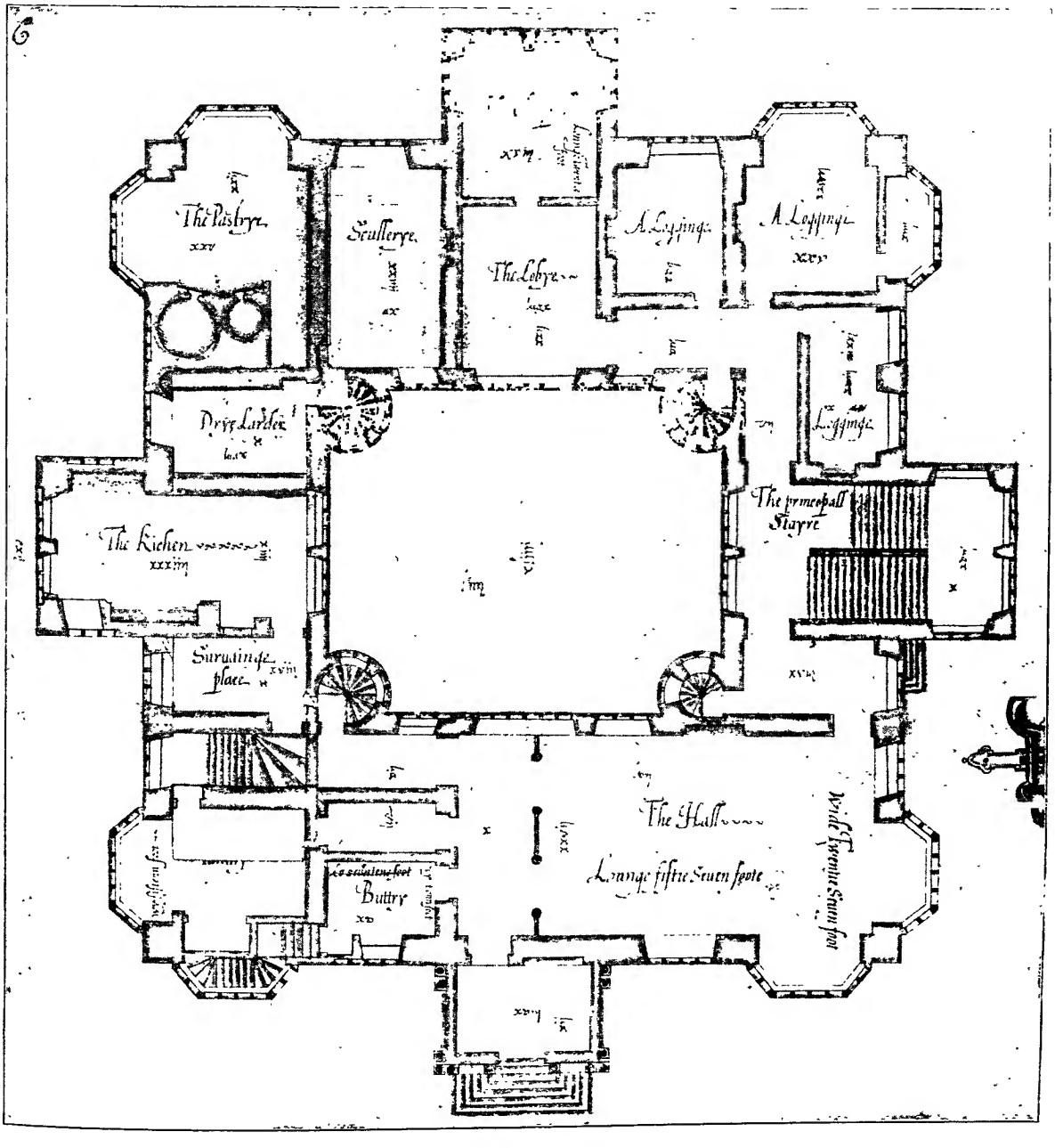
A UNIQUE and extremely interesting assemblage of original drawings by Huntingdon Smithson, the architect of Bolsover Castle, Derbyshire, was shown at the President's "At Home" on Monday, 25th February, and attracted considerable attention. The collection, which was kindly lent by Col. W. L. Coke, of Broke-hill Hall, Alfreton, comprises considerably over fifty plans, sketches, and designs carefully arranged on about fifty sheets. Lord Byron purchased these documents, some time prior to 1762, from the descendants of the Smithsons' family who lived at Bolsover, and in 1778 or 1779 the Rev. D'Ewes Coke acquired them at Lord Byron's sale. Many of these draughts have no titles, and none are signed; but no doubt exists as to their authenticity. Huntingdon Smithson died on 27th December 1648, and was buried in the chancel of Bolsover Church, where his epitaph bears a fulsome record in appreciative verse. Robert Smithson, his father, carried out Wollaton Hall, which was originally designed by John Thorpe. Smithson the elder was born about 1535 and died in 1614, and was perhaps better known than his son, having also previously been "the undertaker and overlooker" of the courtyard elevations and interiors of Longleat, which he completed in 1566. The drawings of Wollaton carefully preserved there show clearly enough that Robert Smithson must have been a very capable architect. From all accounts he subsequently was employed by the truculent "Bess of Hardwick," the famous Elizabeth Countess of Shrewsbury, to design Hardwick Hall in 1576.

Perhaps a few of the drawings to which these notes refer may have been made by him, but there is no evidence to warrant such an assumption; indeed it is much more likely that they are all by his son. The dated ones were certainly executed after the demise of the "Gent architector and surveyor unto the most worthy house of Wollaton with diverse others of great account." * Huntingdon Smithson, who had the advantage of his father's experience, teaching, and connection, was sent to Italy by Sir Charles Cavendish, Duke of Newcastle, to improve his knowledge of architecture before the additions, which he subsequently carried out, at Bolsover Castle were undertaken. These works included the stables which he finished in 1625, and also the riding house, built some two years previously. The former building provided forty stalls, and it measured 130 feet long by 40 feet wide. Robert Timmins, the "architect and builder," had just prior to this date erected

* Epitaph to Robert Smithson in Wollaton Church.

the hall at Blickling in Norfolk for Sir Henry Hobart, who died in 1625. Timmins, his architect, died three years later, and lies buried in Blickling Church. This allusion is made here because the similarity of some of the details of Smithson's planning, as shown by these Broke-hill Hall drawings, appears to have led to an erroneous statement as to Smithson having designed Blickling. John Smithson was, of course, of much later date, and he is generally supposed to have been the architect of Nottingham Castle, 1674–9.

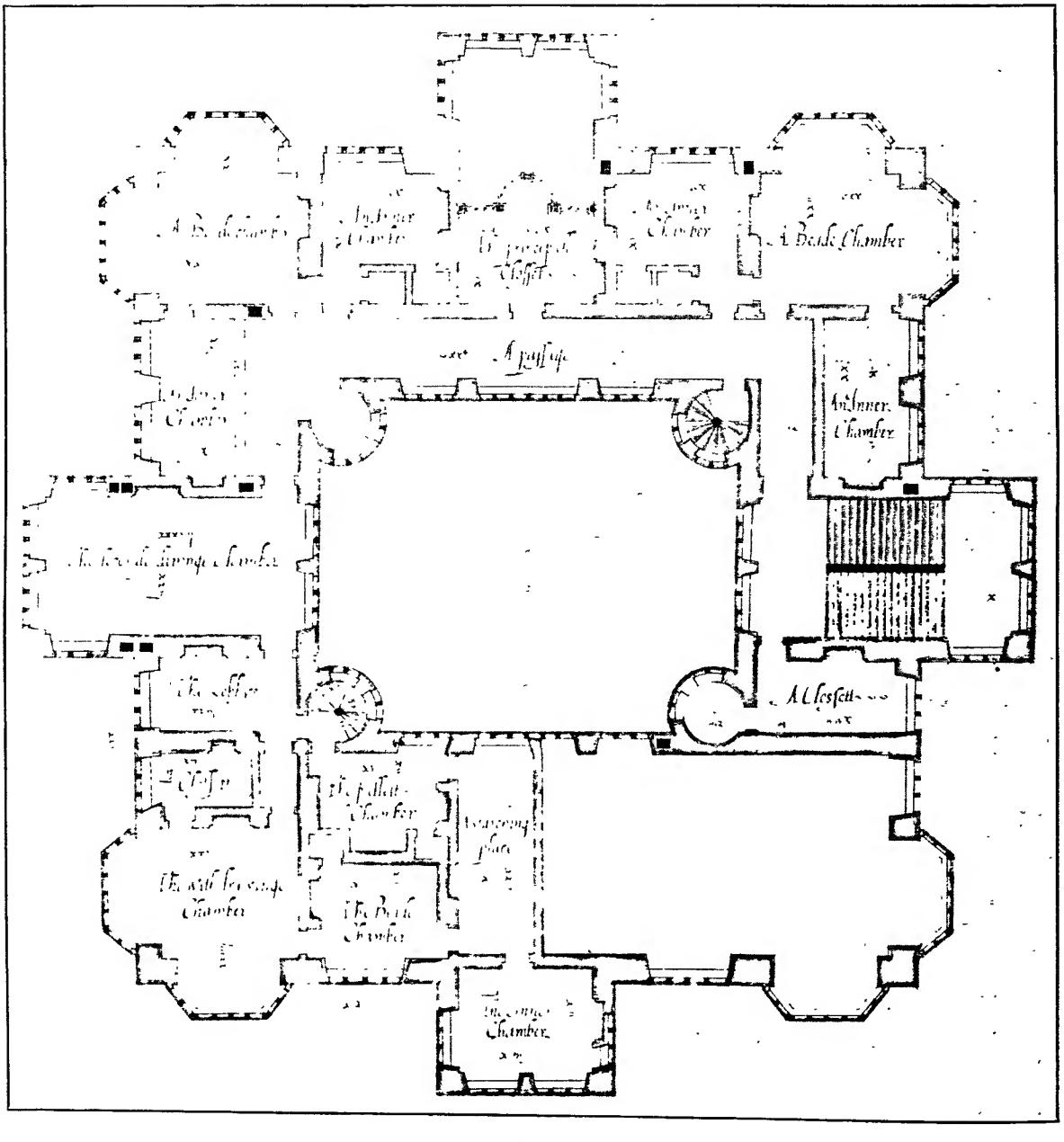
Three of these drawings thus shown at Conduit Street are executed on parchment, all the others being drawn on paper. The draughtsmanship is much neater and generally more workmanlike in treatment than John Thorpe's autograph drawings in the Soane Museum. Smithson's plans are particularly excellent, with charming lettering, much



GROUND PLAN FOR A HOUSE.

From the drawings by Huntingdon Smithson (early seventeenth century), in the Collection of Colonel Coke, of Alfreton. Reduced about half, linear.

elaboration being devoted to the scales attached to the drawings. Some of the names of the apartments are in red, and colour is used on a few of the roofs in the elevations or in plans of ceilings. The imaginative faculty of the architect seems to have induced him to employ several flaps neatly gummed on here and there so as to show alternative contrivances of parts. In the detail called "The uprighte draughte of the Italyane Wyndowe at Arendell House" Smithson displayed much ingenuity, for he skilfully made the shutters to open in this way, and an inner set of flaps is also made to serve for the leaded lattices; while the detail plan below clearly delineates how the superior or enclosing casements, likewise opening inwards, shut against the mullion outside. Another sheet exhibits the exterior of a similar "Italyane" window with its iron balcony or "pergular," as he terms

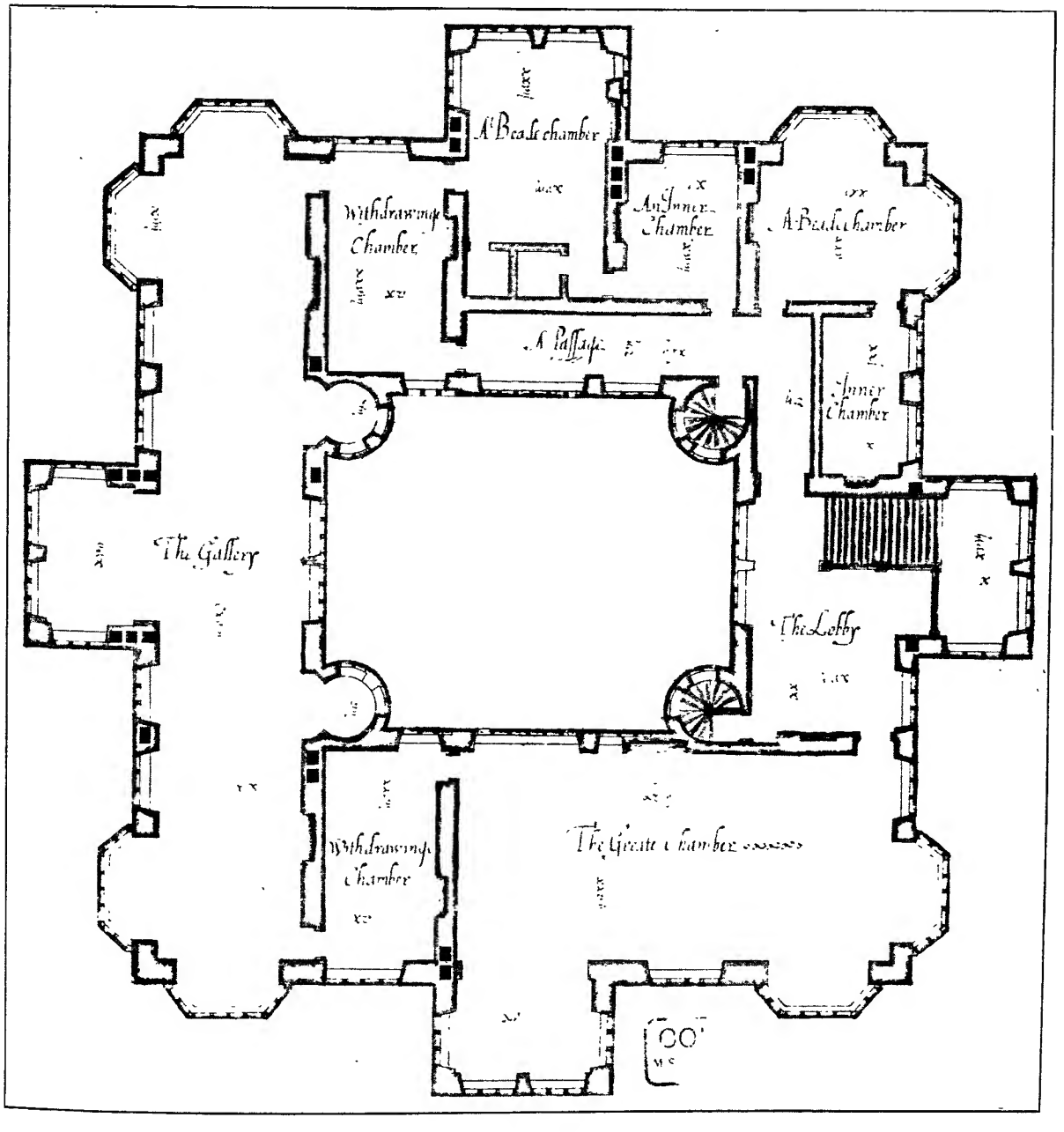


FIRST-FLOOR PLAN OF A HOUSE.

From the drawings by Huntingdon Smithson (early seventeenth century), in the Collection of Colonel Coke, of Alfreton. Reduced about half, linear.

it. The dimensions figured on these sheets demonstrate the exactitude of his methodical mind, and even in the smallest delineations of carpentry he carefully shows the pins and framings. For example, "The platforme of a frame for the Teachinge of a yonge Horse Before Hee come to the Ridinge," "an obedience place for an horse," being set out to a larger scale in detail, is a model of what such a draught should be, save that the perspective of the moulded terminals to the posts is very much out of drawing. The designer anyhow leaves no doubt as to his intentions.

Admirable and curious as some of his screens and other detail "platformes" or "uprightes" are (half geometrical and partly in perspective), the chief value of this collection of Huntingdon Smithson's drawings undoubtedly consists in the development of the planning of houses, which they so well illustrate.

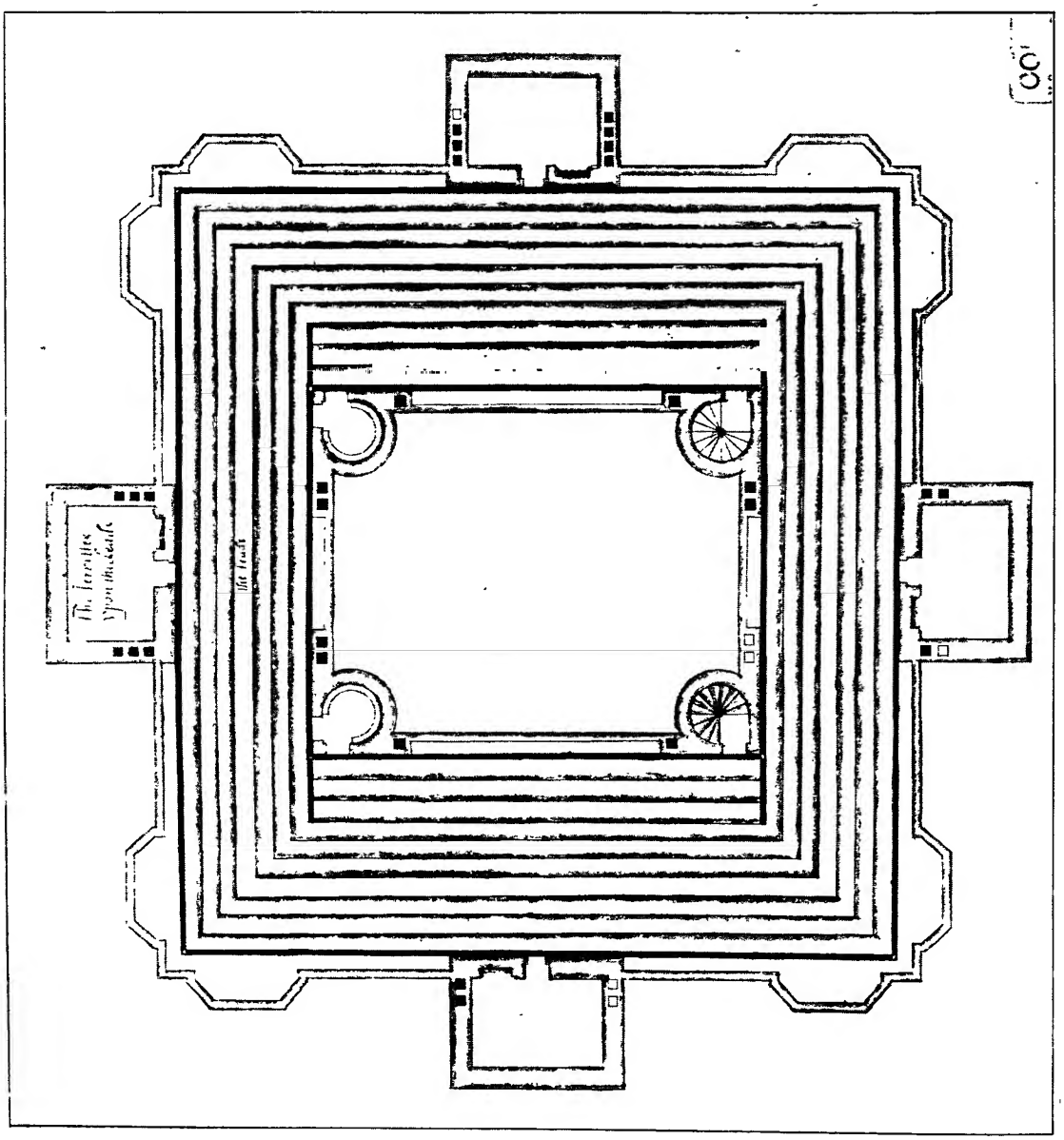


ALTERNATIVE FIRST-FLOOR PLAN FOR A HOUSE.

From the drawings by Huntingdon Smithson (early seventeenth century), in the Collection of Colonel Coke, of Alfreton. Reduced about half, linear.

His plans of Bolsover and Trinity College, Cambridge, are archæologically interesting as records; and so are the sketches he has left of Wollaton, also his designs for "Fulke Grevelle's Bathe House in Houlborne," and Lady Cooke's house in "Houborne, 1619," with its big Dutch-like pediment and enormous projecting canted bay; "The Pergular at Colonel Cecil's House in the Strande"; "The House at Twyfords" (shaded in a most incorrect and odd fashion); and "Newe building at Sant Jeames, 1619" (a three-arched way gate-house), which may all be included in the same category.

But the plans which chiefly merit study are those which are distinguished by his decided departure from older types of domestic contrivance. The originality which they display is certainly remarkable. That Smithson was well acquainted with the earlier methods of planning is clear enough from his plans of "Worksop Mannor," drawn to "the skalle after 20 in one inche." Its hall is "62 foote



PLAN OF THE "HALLS" OR ROOF PLAN OF A HOUSE.

From the drawings by Huntingdon Smithson (early seventeenth century), in the Collection of Colonel Coke, of Alfreton. Slightly more reduced than the plans on preceding pages.

longe, wyde 33 fo." with "Butterye," "Panterye," and "Survayeing Place" leading to the kitchen, attached to which is a "Boylinge Place" and "Pastery." At the other end of the hall a long narrow apartment of considerable size is called "The Warderope," "a store houfe over the Wyne Sellor" coming at its rear with a shelter "For Wd. and Colls."

The parchment drawings already referred to show the plans of "My Lord Sheffield's House to ⅛ inch scale." The building is of the Inner Court type, having square turrets in the angles, including two newel spiral stairways. The approach to the house is by an archway through the front block, also very like Blickling. Facing this portal is an unusual verandah betwixt the flanking turrets, that on the right having the entrance door on its return side very similar to the left-hand portal of Burton-Agnes in Yorkshire, which it only resembles, however, in that respect. This porch in Lord Sheffield's house opens immediately into the Great Hall, which has a screen shown in the customary position. This apartment measures 63 feet by 30 feet, with the "Cychinge" and offices to the right, located together in the orthodox fashion. Over the front block occurs the Long Gallery, 137 feet long by 18 feet wide. The engrossed lettering on these plans deserves our admiration for its neatness. There is a separate "Dynynge Chamber longe 44 foute, 22 foute wyde" apart from the hall, and a feature in this plan is made of the passage ways, which are, however, only partially employed, the older method of reaching one room through another being otherwise adhered to. Considerable skill is displayed by the figuration of the "Scalle" with compasses and scrollwork as a decorative adjunct to the drawings.

The four plans herewith reproduced illustrate a remarkable scheme for an unnamed house of considerable merit and no small pretensions. We have chosen these because they indicate the decided advance in design to which reference has already been made. The ground-floor plan has some flaps upon it to illustrate variations of parts, but two distinct and complete alternative arrangements are shown for the first floor. The internal courtyard in the middle of the block has no means of approach. It serves really as an area for light and air round which this four-square mansion is contrived, having four circular turrets in the angles of this courtyard. The porch occupies the central place of the entrance elevation and leads in the usual way direct into the hall; but note the departure from traditional usage in the position of the kitchen and further offices, extending as they do round as far as the wall of the "Chappell," which is situate on the far side of the house, and corresponding with the entrance bay on the front. The doors between the kitchen and dry larder, and between that apartment and "The Pastrye," do not figure on the plan as here reproduced. It is impossible to show the alternatives of the flaps in one photograph, of course. "The princepall Stayre" beyond the hall is situate in the middle of the right-hand façade, and it balances the kitchen pavilion on the left-hand front. A garden door occurs in quite a modern way (on an alternative flap) next the staircase hall. The steps from this door appear on the plan as given, but the door which occupies the position of the window is not here shown. "Logginges" lead out of the passage extending to "The Lobye" opening into "The Chappell." One of the first-floor plans provides for the Great Hall to run through two stories in height, but in lieu of the usual gallery which in such a case is generally found, "a starching place" is provided with an "Inner Chamber" over the porch, and "Beade Chambers" beyond are shown. Over the kitchen is "The Seconde dininge Chamber," and thence runs a passage round to the main staircase, a great feature being made of "The princepall Closset" overlooking the chapel, with a bow bay to the gallery front. In the alternative first-floor scheme great changes occur. A long gallery, 118 feet in length by 19 feet wide, extends over the offices and kitchen on the left front, while over the hall is a "Greate Chamber" with a "Withdrawinge Chamber" between it and the Long Gallery. The Chapel in this plan is made less important by having a "Beade Chamber" over it, and a grand "Lobby" or landing is provided next the main stairs. The circular turrets are treated as very pretty bays opening out of the Long Gallery. The fourth plan is only interesting as showing the "Leads." Space precludes a more detailed description of these plans, which will well repay a close inspection, and entirely warrant the space here devoted to their reproduction.

The collection includes other inner area court plans with circular stair turrets and picturesque contrivances attached, but these do not always, however, suggest provisions for comfortable enjoyment. We have already alluded to the plan of the "offices at Bolsover." It is most neatly drawn, notwithstanding that it hardly agrees with the actual fabric as we know it now. Perhaps this "platforme," as Smithson designates his plans, was not supposed to be taken at one level throughout. A perspective sketch shows a groined marble-faced interior, with a hooded angle fireplace, almost identical with those to be seen in this "offices" building at Bolsover. The dimensions, however, do not tally, otherwise this sketch might have been intended to illustrate the chamber over its entrance, with the "Italyan window" and "pergular."

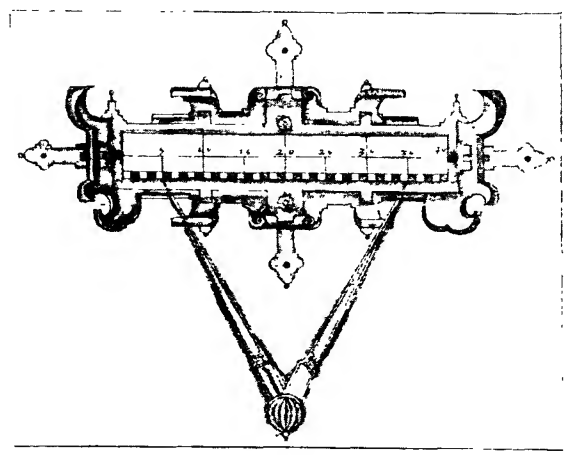
"The platforme of the Stabell at Claytons, Jennaye ye 20th, 1632," is a later work which provided for twenty stalls in a building 105 feet long. The stables at Welbeck are shown 118 feet long, and are much more lofty in elevation than the last, having buttresses between the mullioned windows and pedimented heads to the doorways.

This "uprighte" is partly in perspective, and the red on the roof, to show the tiles, adds much to its quaintness. The plan and façade, however, do not agree. "The Ridinge house at Welbecke," 120 feet by 40 feet, has a fine hammer-beamed roof over it rather carefully delineated, this roof in the side elevation being set out in perspective in skeleton to allow the purlins and framings to appear. The walls to the plate level are 24 feet high: on this same sheet occurs a diagram intended to set out the contents of a yard of the walling in this Riding house, showing the number of bricks needed per yard. This is curious as a graphic example of early quantity-taking with explanatory notes too copious to reprint without the diagram.

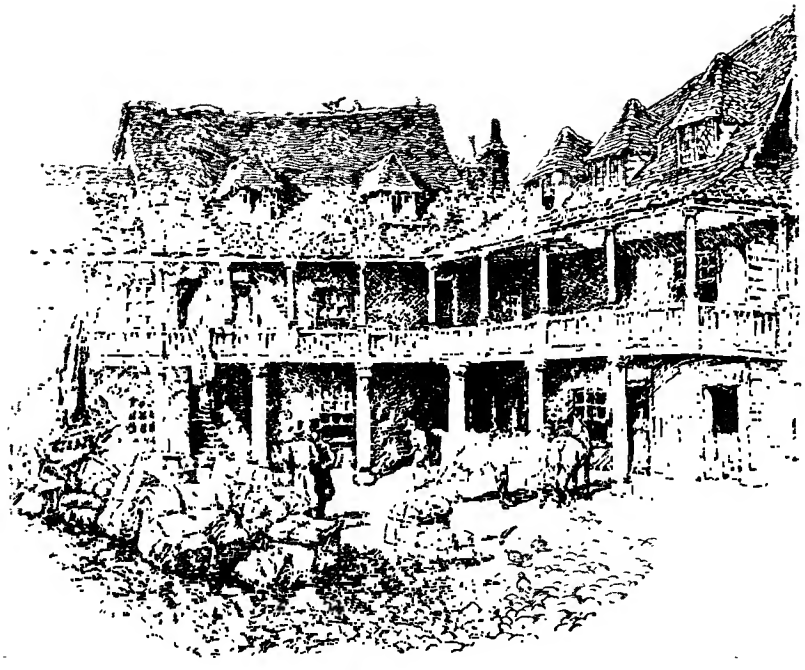
We have made a careful examination of all the other plans, but in the absence of illustrations further descriptions are liable to become uninteresting. A complete set of plans by Smithson for a small detached house should, however, be mentioned. They are most excellent and eminently typical of the self-contained compact style of the early seventeenth century, so characteristic of vernacular country-side dwellings for the yeoman class.

Among the named plans it may be useful, perhaps, to enumerate those of Bullwell Park; "Sur Tho. Vaveyers house at Peterson in Surrie"; "My Lo. of Excetor's ho. at Wymbellton, 1609"; my Lo. Bedfordes at Twitnam (with Lyme Treese and Birche Treese round a circular garden)"; and "Sur Percevalle Willoughbye's new orcharde at Wollaton Ann. domi. 1618." Another most interesting plan shows the gardens and court of "My Lo. of Wooton House at Nonesuche," having "walkes sett with frute treese."

A somewhat remarkable draft of "The Banketinge House at the White Hall in London" seems to show that Smithson probably made a design in competition with Inigo Jones, whose original plans, now at Worcester College, Oxford, were prepared in 1619. Of course Jones's plans were not carried out save in so far as the Banqueting-house itself was concerned. Smithson's plan before us suggests that a less palatial scheme, not only for the hall itself, but for its immediate adjuncts, must have been contemplated or thought more likely to be adopted with the intention of incorporating existing buildings with it. This is only a conjecture, however, suggested by this plan, which shows a hall, 120 feet long by 43 feet wide, adapted to conform with precincts which are retained. It has four projecting bays towards Whitehall and three interspaced ones looking towards "The Chappell Courte" at the rear. Here there is a large cloister or "close wake wch. goeth to the Loginges." In the middle of this spacious garth, on a raised platform, is drawn "The preachinge place" with steps and a verandah or pent to it. On the same sheet is a fragmentary elevation of a rusticated "Fyrste storye of the New Banketinge house," but it does not fit the accompanying Jacobean type of plan at all, and must have belonged to an entirely different scheme, similar but not really like Inigo Jones's design. Among the garden plans is one of additions to "Somersett House" and a "platforme" of the gardens to "the Queen's House" with the "Ryver Thames" and "Stayers." Smithson's detail designs for screens and fireplaces, panellings, and other figurements in these drawings show considerable inventive fancy; but some of the mouldings are incongruous and ill-proportioned. A few are inconsequential and look like mere fancy sketches or oddments in design. They illustrate, however, the temperament of the artist, and impress us with his personality.



Scale of drawings reproduced on foregoing pages (excepting the roof plan p. 370).



THE OLD TABARD INN, SOUTHWARK.

HOTEL PLANNING. By Stanley Hamp [A.].

Read before the Royal Institute of British Architects, Monday, 8th April 1907.

In approaching our subject this evening I have felt it very difficult to deal fully with the many important questions which arise when considering hotel construction. I fear that there must of necessity be numerous omissions, as the time at one's disposal is so limited; I trust, therefore, that as many as possible present here to-night will join in the discussion afterwards and make up for my deficiencies. I did not fully realise until deep in the preparation of this Paper how wide a range it covered; but I will endeavour to put before you a few of the principles of planning which I feel are important to the proper construction and management of modern hotels.

In looking at our subject the first question to be asked is, "What is an hotel?" and then one's mind naturally travels back to the time when the old-fashioned inns, so picturesque and historical, were the only accommodation provided for travellers. One then begins to consider the causes for the rapid strides which have been made in this branch of commercial life during and since the latter part of the last century.

Let us then ask ourselves, "What is an hotel?"—a question which is more worthy of consideration than at first sight appears. The word or designation "hotel" is derived from "hostel," a palace or lordly house, and is usually described in dictionaries as an inn or public-house. The term "hotel" indicates a place or building wherein can be obtained rest and refreshment, either temporarily or for lengthened periods, at a charge consistent with the accommodation and the fare afforded. There are licensed and unlicensed hotels: the former alone are privileged to trade in excisable liquors, the latter being designated temperance hotels. Strange though it may appear, although most hotels have a licence, there is no such thing

as an hotel licence properly so called. As matters now stand, any public-house or third-rate boarding-house can style itself "hotel," with the result that strangers are apt to find themselves often in very uncongenial quarters.

It is both interesting and curious to note how the development in hotel construction has gone hand in hand with the improvements in locomotion. I propose to go back to the old coaching days so beloved by Dickens and forming the background of so many interesting incidents in his novels, and may put upon the screen one or two well-known ones which are still in existence, and which show the type denoting the starting-point in this Paper. The first example is the "King's Head" at Chigwell, celebrated by Dickens as the "Maypole" in *Barnaby Rudge*. The next the old "Tabard Inn" in Southwark. In the latter instance you will note the balcony round the coaching yard. This reminds one of the time, I think during Elizabeth's reign, when the comedians who then first united themselves into companies made use of these yards for entertainments, and erected an occasional stage at the fourth side, with its back to the gateway of the inn, at which admission money was taken. Hence in most of the theatres in the time of Shakespeare there was an open yard or area where people stood to see the exhibition, and to this the poet alludes in Hamlet's advice to the players when he bids them "not to tear a passion to tatters, to very rags, to split the ears of the 'Groundlings.'"

The "Maid's Head" at Norwich is indeed typical of an ancient hostelry, having the quaint attributes which one associates with the old coaching days. The post yard has now been covered in with a glass roof, and forms a lounge such as we find in a grandiose style in modern hotels.

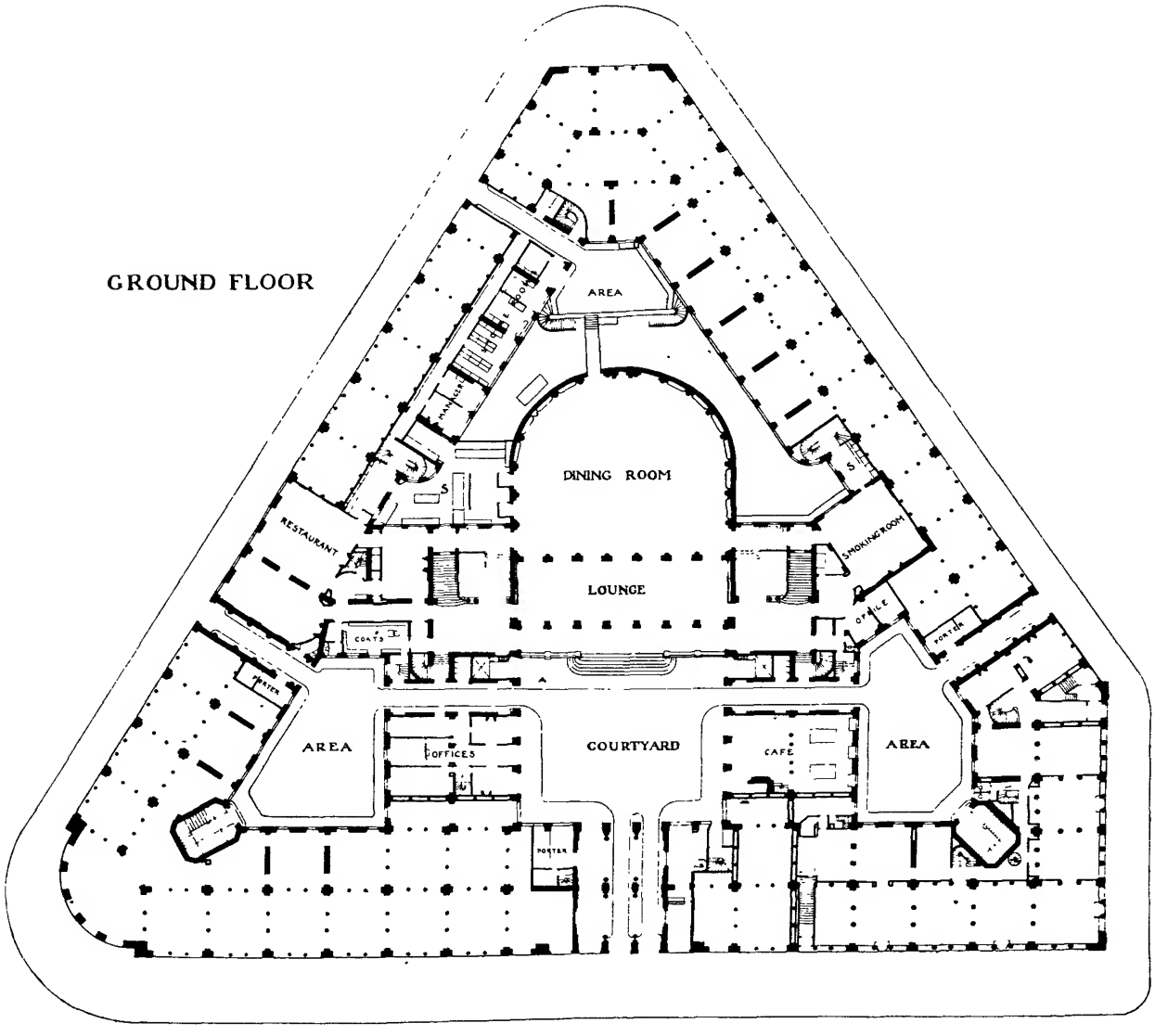
The next is the "Maid's Head" coffee-room. It was long the practice in even high-class houses to provide no public rooms. The coffee-room was compelled to serve all purposes: it was drawing, writing, and reading room all in one, the obvious aim in this being to encourage the hire of private sitting-rooms—an obligation that now no longer exists. It is not, however, so many years ago since better-class travellers clung to the tradition of "a private sitting-room," and scorned the idea of joining at *table d'hôte*. But this is altered now, and the public reception-rooms at hotels are freely used by guests. To speak of these inns is like entering upon an historical catalogue: the associations connected with them carry one away into so many directions, and land one into many strange corners of history.

There is no doubt that in the near future motorists will form a very important part of the public, so far at least as hotels are concerned, and they will probably bring back to the inns on our rural high roads much of the custom and the prestige which they lost through the disappearance of the stage coach. Many inns which have in the past been extensively used for coaching and posting purposes have more than sufficient stall accommodation for their present requirements, and it should be a simple matter to convert the stalls into garages to meet the increasing demand for such accommodation.

The inn sign-boards of olden days bespeak our interest for a while, as many of them owe their origin to the inspiration or generosity of men destined ultimately to win fame, and even fortune, in the noble pursuit of art. Signs are the survivals of the early days of public catering, and have a history that is interesting and often peculiarly fascinating. Signs were known before language, and pictorial sign-boards before printed names, and it may be safely concluded that the origin of trade signs was the natural desire of tradesmen to make it easy for the passer-by to find the shop selling the particular wares desired. Pictorial signs seem to have originated in Rome, where a bush was the indication that the house displaying it sold wine: hence the proverb, "Good wine needs no bush." The names on some inns often show an amusingly incongruous combination. Perhaps the majority of signs really have their

origin in the coats-of-arms, so that to trace their history back to the beginning would be to give a history of heraldry, which would be beyond the limits of this Paper. Another source is to be found in the devices of trade guilds, or merely of trades, as the "Bricklayers' Arms"; others are derived from legends of saints, such as the "George and Dragon."

It is more interesting, however, to trace the development of the signs to accidental corruption of words or to amusing misreadings of drawings by inexpert artists, such as the "Ramping Cat" for the "Lion Rampant." Then consider the "Pig and Whistle" which may be taken as the most quoted type of incongruous inn signs. There was a law made by King Edgar that when drinking from wooden bowls (wassail bowls), in use in ancient Saxon times, his subjects should always leave enough liquor at the bottom of the bowl to cover the peg there. Hence "peg and wassail," which has become corrupted into "pig and whistle." There are numerous others, but time does not permit me to mention them.

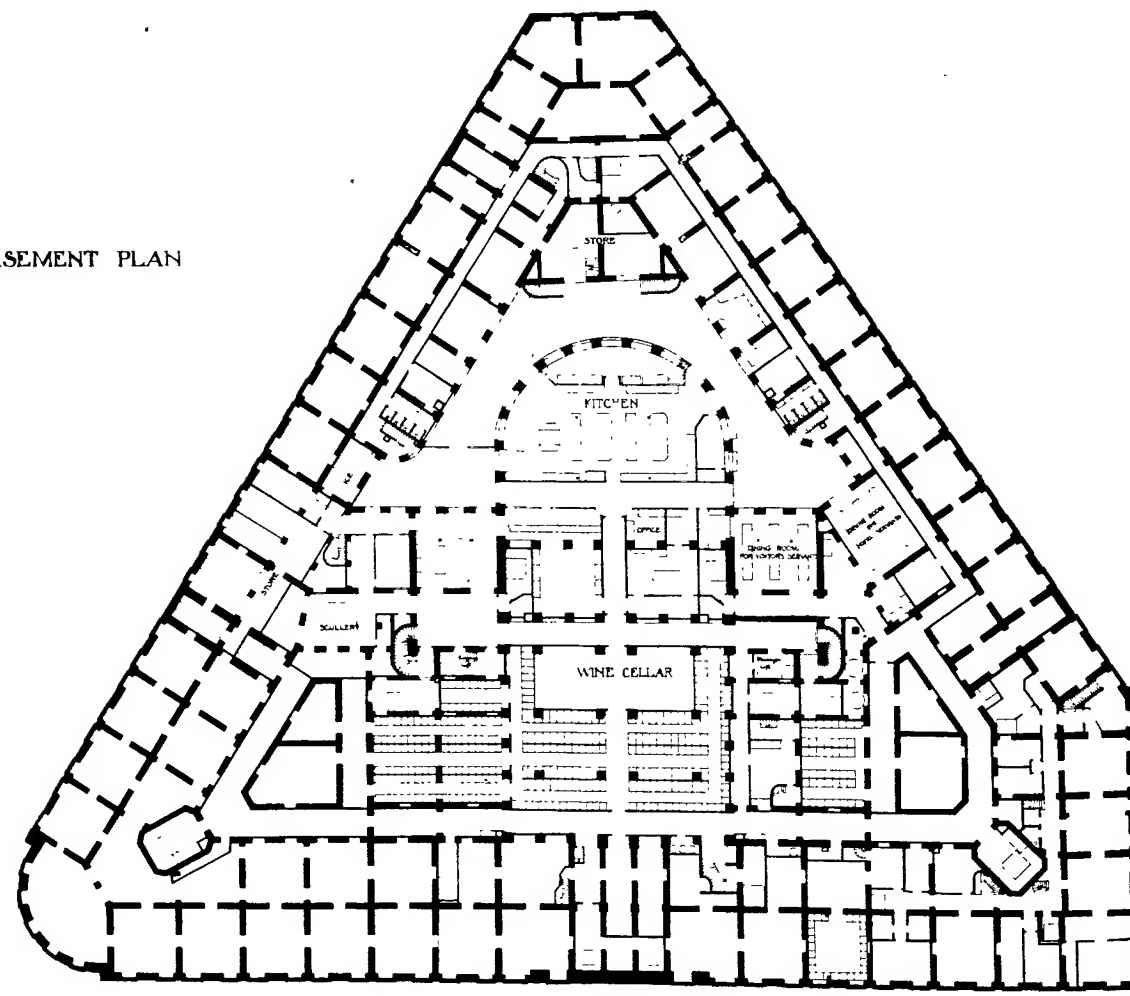


GRAND HÔTEL, PARIS. (M. ARMAND, ARCHITECT.)

An American writer has given the following vivid though hardly flattering picture of an inn bedroom:—"With the aid of two candles which I lighted I discovered the grate in the wall near the head of the bed, and on examining it closely I perceived that there was a fire in it. The grate could have held quite a double handful of coal if carefully put in; the fire, which seemed to be flickering so feebly, had yet energy to draw all the warmth of the chamber up the chimney, and I stood shivering in the temperature of a subterranean dungeon. The place instantly gave evidence of being haunted, and the testimony of my nerves on this point was corroborated by the spectral play of firelight on the ceiling when I blew out my candle. In the middle of the night I woke to the sense of something creeping with a rustling noise over the floor. I rejected the hypothesis of my bed curtain falling into place, though I remembered pulling it back that I might have light to read myself drowsy. I knew at once that it was a ghost walking in the night, and walking hard. Suddenly it ceased, and I knew why—it had been frozen out!"

There is a passage in one of Dr. Johnson's works in which he says that one of the characteristics of an inn was that you were made welcome, and that the more noise you made, and the more trouble you gave, and the more good things you called for, the more welcome you

BASEMENT PLAN

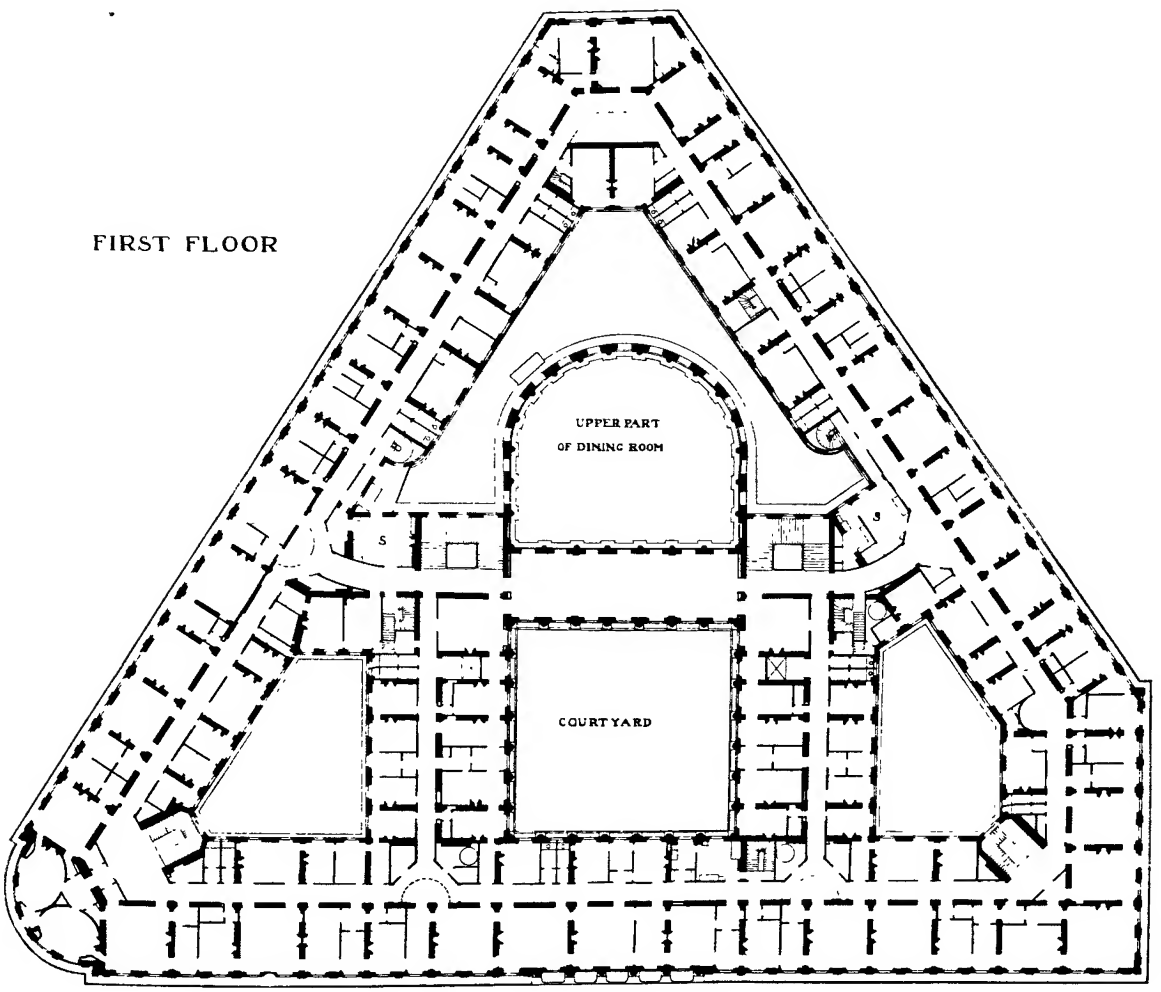


GRAND HOTEL, PARIS (M. ARMAND, ARCHITECT.)

were. Having made that statement, Dr. Johnson proceeded to repeat with great emotion Shenstone's well-known verses :—

> "Whoe'er has travelled life's dull round,
> Where'er his stages may have been,
> May sigh to think how oft he found
> The warmest welcome—at an inn."

Hotels have developed so enormously in recent years that it is hardly an exaggeration to say that one half of the world keeps them for the other half to live in. Hotel companies increase and multiply. They were a few years ago a popular form for the investment of capital. The average person spends, as a rule, a portion of every year in an hotel. Business, or pleasure-seeking—which is to many a very serious business—takes people so constantly from home that the hotel forms an integral part of their lives. We have not yet come, perhaps, to that system of more or less permanent residence in hotels which exists beyond the Atlantic, where whole families have no other home than the palatial hotel or the plebeian boarding-house. Still, the practice is not unknown even in this country, and it is growing with the increasing difficulties of housekeeping.



GRAND HOTEL, PARIS (M. ARMAND, ARCHITECT)

It is not surprising, then, that modern hotels have multiplied exceedingly, and that some have almost reached the last limit in size and grandeur. Huge hostelries, embodying every method and device that may be supposed to minister to the demands of congregate existence, have sprung up in all centres of population. That tendency to bigness which is so characteristic of the present age has long since embraced hotels. The modern "monster" hotel is generally thought to be an American product, but the earliest specimens of it were long since devised by that nation of hotelkeepers the Swiss. Still, it has found its greatest development in the United States, whence it has now been imported into this country. These enormous edifices require to be planned with the most minute and anxious care; every detail has to be thought out so as to give the maximum of convenience and appliance. Upon consideration it will be readily conceived that, as far as accommodation is concerned, the great improvements have been made in recent years. There is no room in the town for the "pokey little hotel." Hygiene and sanitary teachings have helped in the radical change, and now the average traveller expects an abundance of light and air, comfortable surroundings, good attendance, and a faultless *cuisine*. It is the withering of the individual and the suppression of personal relations which makes the big hotel, with all its amenities of accommodation, so distasteful to some people. It is unpleasant, they say, to live as in a crowd; but I fear it is difficult, if not impossible, to avoid it nowadays.

The railway termini hotels can claim to have exercised in an indirect manner considerable influence in raising the standard of hotel accommodation, most of them being palatial in their proportions. Perhaps the principal of these hotels, and one which needs some comment, is the Midland St. Pancras Hotel, which was designed by the late Sir Gilbert Scott. Other hotels of the early Victorian era are the Great Western, Charing Cross, and Cannon Street, all of which are still in existence, although no doubt remodelled and brought up to date.

One may say that hotels are of three classes—viz., residential hotels, commercial hotels, railway hotels. The "residential" hotel is practically a modern institution, and is, as the name implies, a house of residence for visitors who can stay for more or less lengthened periods.

The commercial hotel is similar in most respects, but the commercial room is given the most prominence, and should be made the most comfortable. Care must be taken to provide separate tables for correspondence, so as to ensure privacy, which is most desirable and essential. A reference library, with a sufficient supply of directories, railway guides, literature bearing upon business topics, is desirable. Lifts should be provided for carrying packages to all floors, and a well-lighted sample-room should be arranged for. There should be a feeling of comfort in the apartments, but lavish, expensive fittings and appointments would be quite out of place.

The railway hotel caters for the travelling public, and passengers arriving at unreasonable times of the night and early morning greatly appreciate the avoidance of expensive cab fares, &c. They have only to walk from the platform into the hotel, their luggage being brought in without much expense by the hotel or railway porters.

The location of an hotel is all-important, whether destined for a "commercial hotel" or a "residential hotel." Unfortunately this is often settled before the architect is consulted, and he has to make the best of a bad position. The hotel should have the best and most suitable position according to the *clientèle* for whom it is intended to cater. A commercial hotel should be located in the centre of commercial life, and a residential hotel in a large city in the midst of theatres, clubs, and the whole fashionable life, and it should be situated in a main thoroughfare. Of course this does not apply to hotels in health resorts, where the more isolated they are, or if they have the advantage of being built on the side of a hill, the greater are the chances of success.

The building itself should present a pleasing exterior. I do not, however, purpose here to deal with design, but would like to say that in hotels the usual tawdry and showy character should be avoided, and the building should be designed with a simple architectural treatment. There should be an inviting main entrance, and the building should be well lighted. A bright, cheerful appearance has great attractions. The rooms should be light, but not too large; furniture substantial and not flimsy, to stand wear and tear.

There should, if possible, be only one entrance and exit for the staff. The success of an undertaking is sometimes marred by the loss which often occurs when this is forgotten. Another very important feature is that the building should, as far as possible, be fireproof, and should have one or more fire-escape staircases arranged with escape-door at each corridor.

It is often surprising that a better entrance to the dining-rooms is not provided in many hotels. I have seen some fairly large hotels where the dining-room is approached by a long narrow passage from the reception-hall, and the room itself entered through a narrow door. Folding doors should, I think, always be provided.

The cloakroom arrangements also are often inadequate, and a total absence of system seems to prevail in this department with disastrous results.

It is very important that an hotel should be so planned as to minimise the staff as far as possible. I have heard it said of a very large hotel in this country that to work it satisfactorily a staff of 150 servants is necessary, with the result that in winter there would be three servants to each guest.

The usual accommodation of the modern hotel now might be stated as follows:—

Ground Floor:

Lounge or winter garden.
Dining-rooms, restaurant, coffee-room, with services adjoining.
Reading and writing room.
Small drawing-room.
Smoking and billiard room, with bar attached.
Ballroom, with reception-room attached.
Office and manager's room.
Gentlemen's lavatory and cloakroom.
Ladies' retiring and toilet rooms.

Basement:

Kitchen and offices.
Staff dining-rooms.
Servants' hall.

In addition, often one or two rooms are required as private dining-rooms, and in the provinces a large hall for public banquets and meetings is necessary, in which case a separate service should be arranged with a separate kitchen.

In large hotels a barber's shop is often found to be a useful adjunct. I venture to suggest that, where the business is large and the premises will admit of it, a bakery should be provided. The consequent saving is considerable, and, as a rule, the articles produced far superior to those obtained from outside sources.

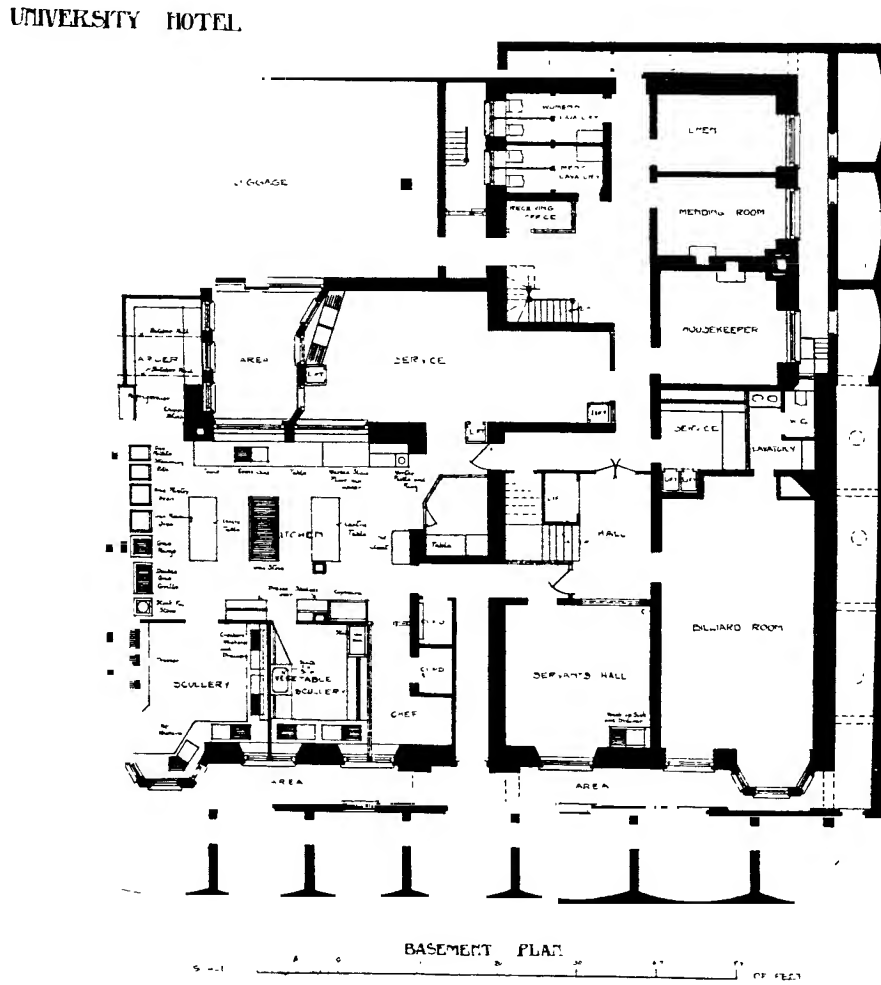
In commercial hotels a sample-room is required with office, lift, and separate entrance.

A café is sometimes thought desirable, as at the Savoy Hotel; but this is more a feature in Continental hotels.

In Eastern hotels a bazaar should be arranged, and a verandah, on each floor, affording shelter from the sun's rays and supplying a comfortable lounge, as may be seen in the hotel at Mombasa.

The upper floors are usually devoted to sitting-rooms, bedrooms, bathrooms and w.c.'s, and service-rooms, of which there should be one on each floor fitted with sinks, hot plates, &c., in direct communication with the kitchen, and adjoining which the service lifts to carry coals, &c., should be arranged.

As far as possible the ladies' and gentlemen's lavatories should be away from each other, and cut off from the main corridor by a ventilated lobby. Lavatory accommodation for both



UNIVERSITY HOTEL, LONDON. (MESSRS. E. J. COUTCHET AND STANLEY HAMP, ARCHITECTS.)

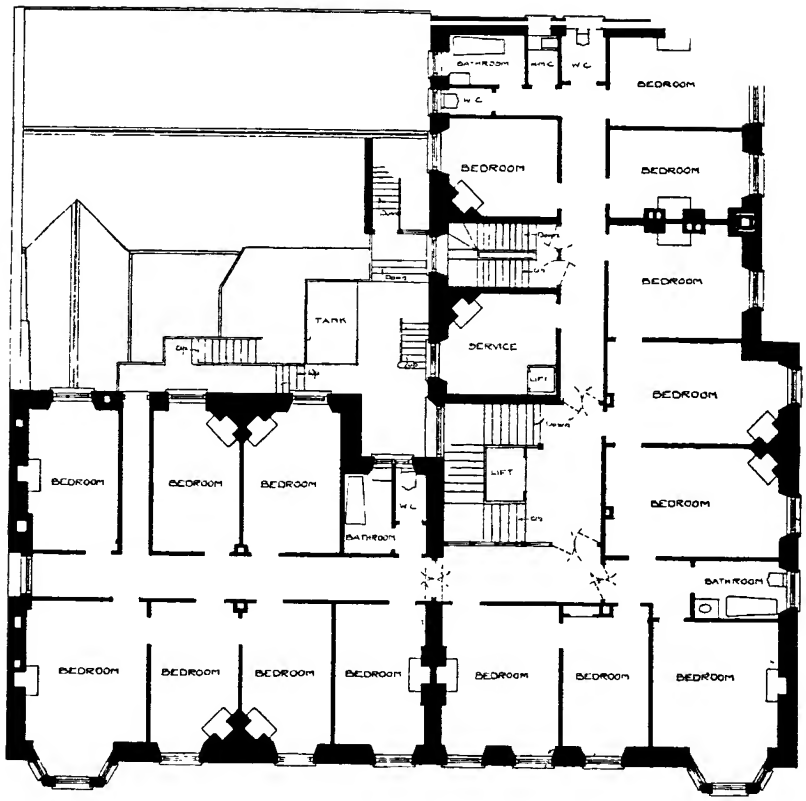
sexes should be provided near the entrance hall, and should be well separated, and not too much in evidence.

The office need not be a large department, but should be near the main entrance, and should include reception office, inquiry, letters and keys, cashier's office.

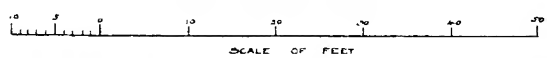
There should be a bills office, where accounts are made out, in direct communication with the cashier's office either by lift or pneumatic tube.

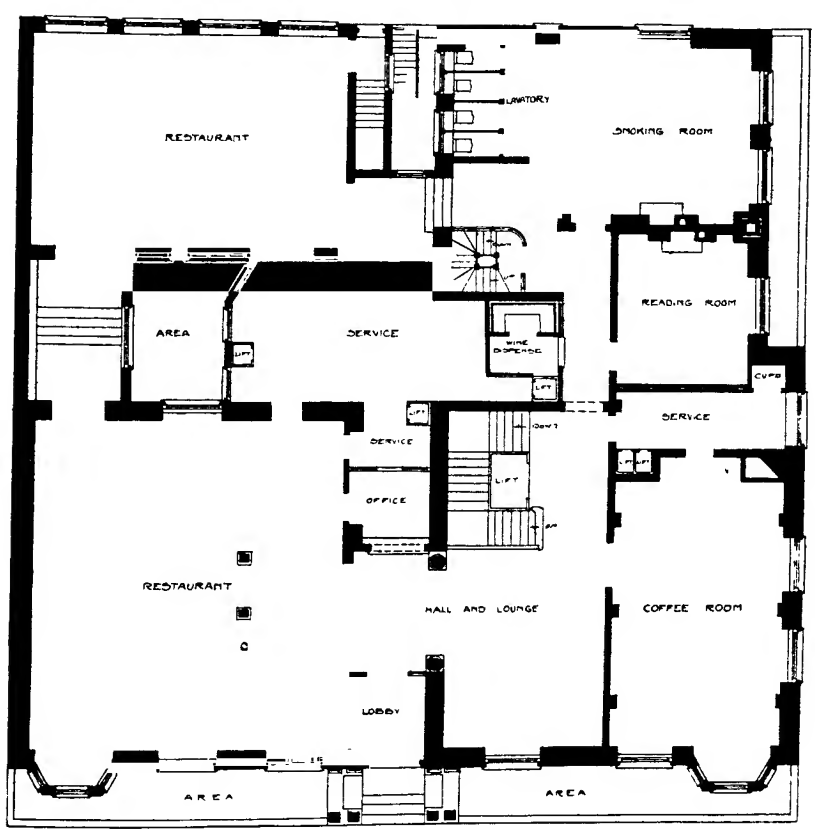
There should be a porters' room, and perhaps a cigar counter near the entrance.

The main entrance should be so arranged where possible that visitors arriving shall not



FIRST FLOOR PLAN





GORDON STREET

GROUND PLAN

CHOSLEIGH GARDENS

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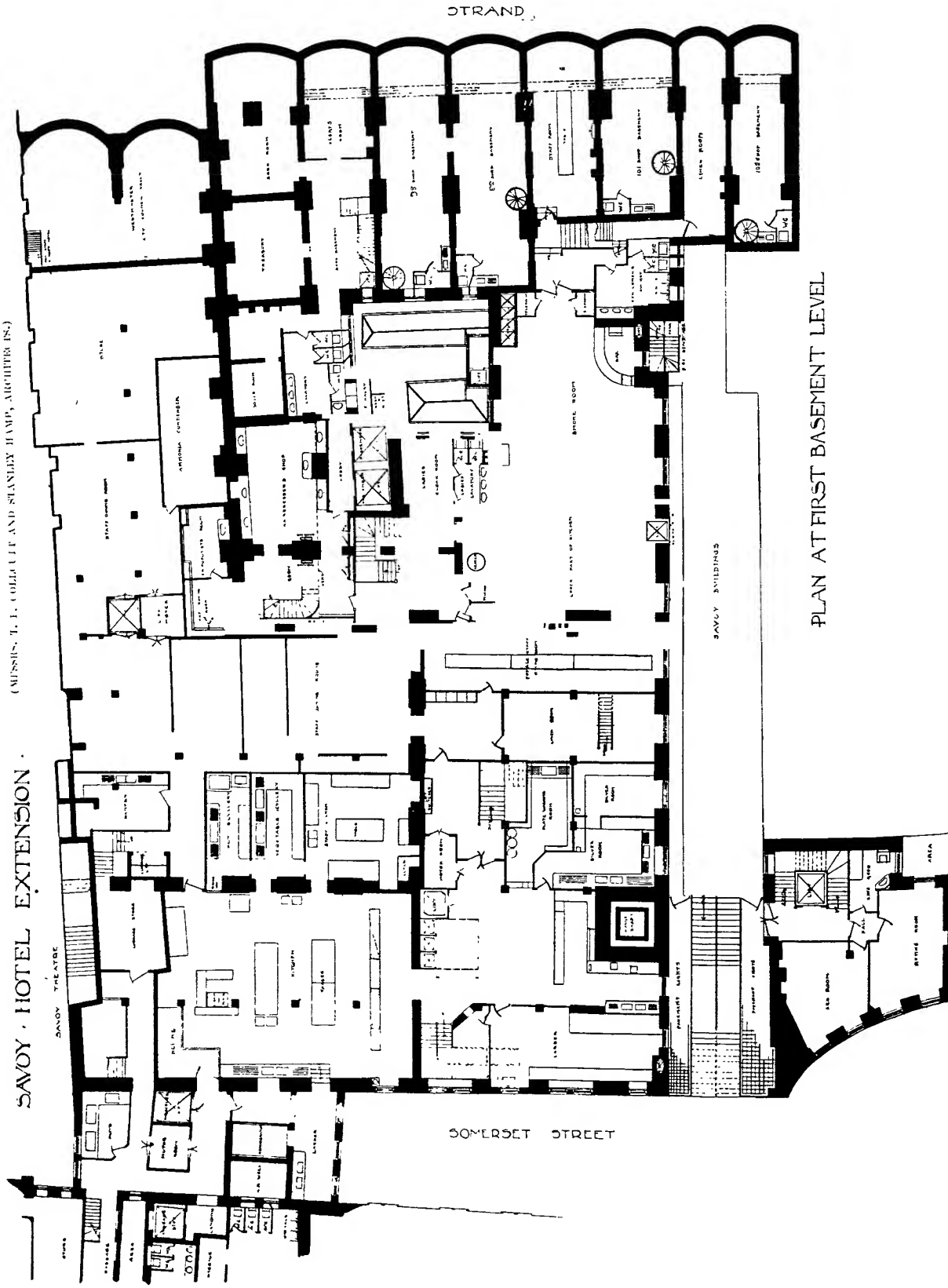
UNIVERSITY HOTEL, LONDON. (MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)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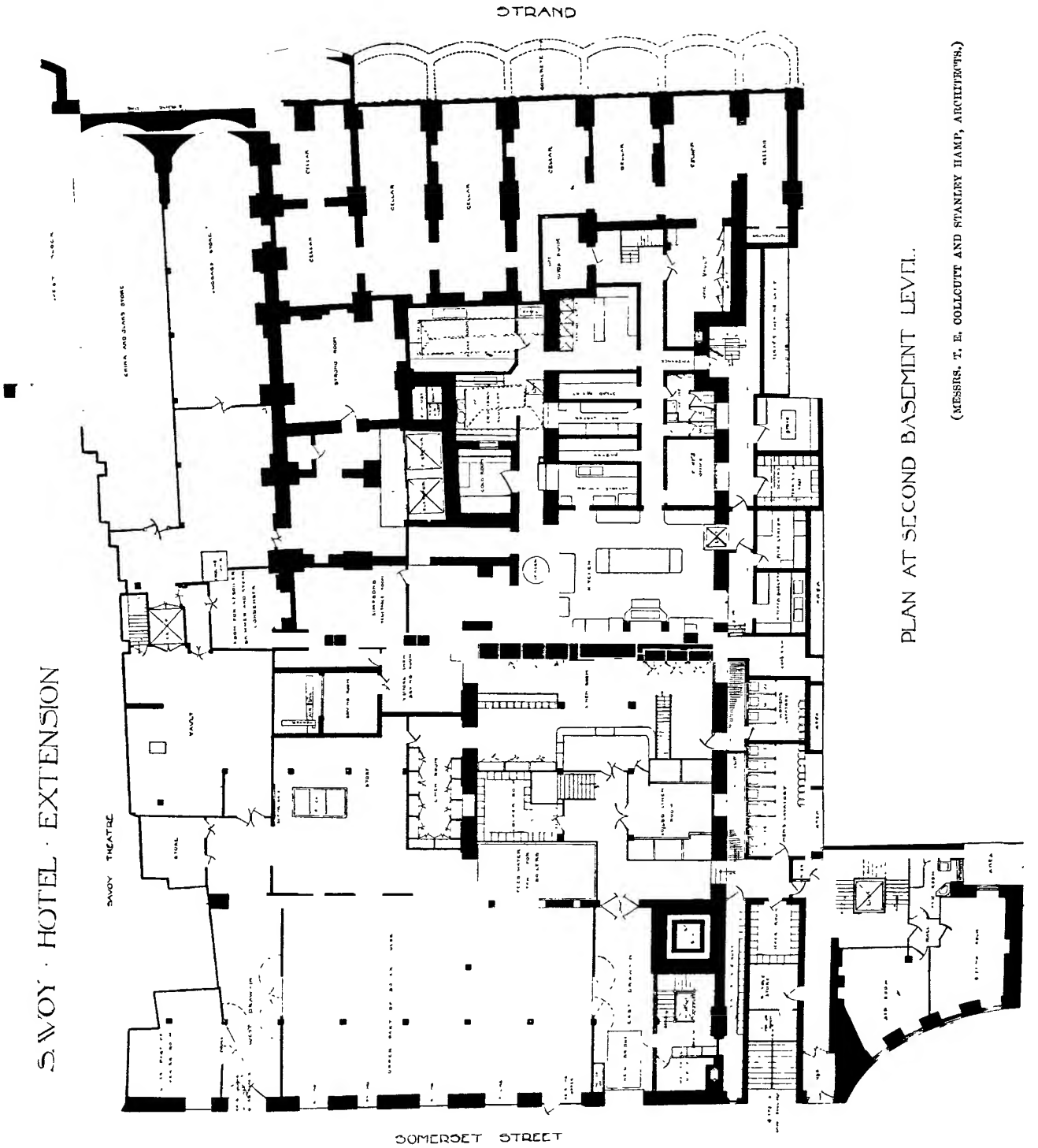
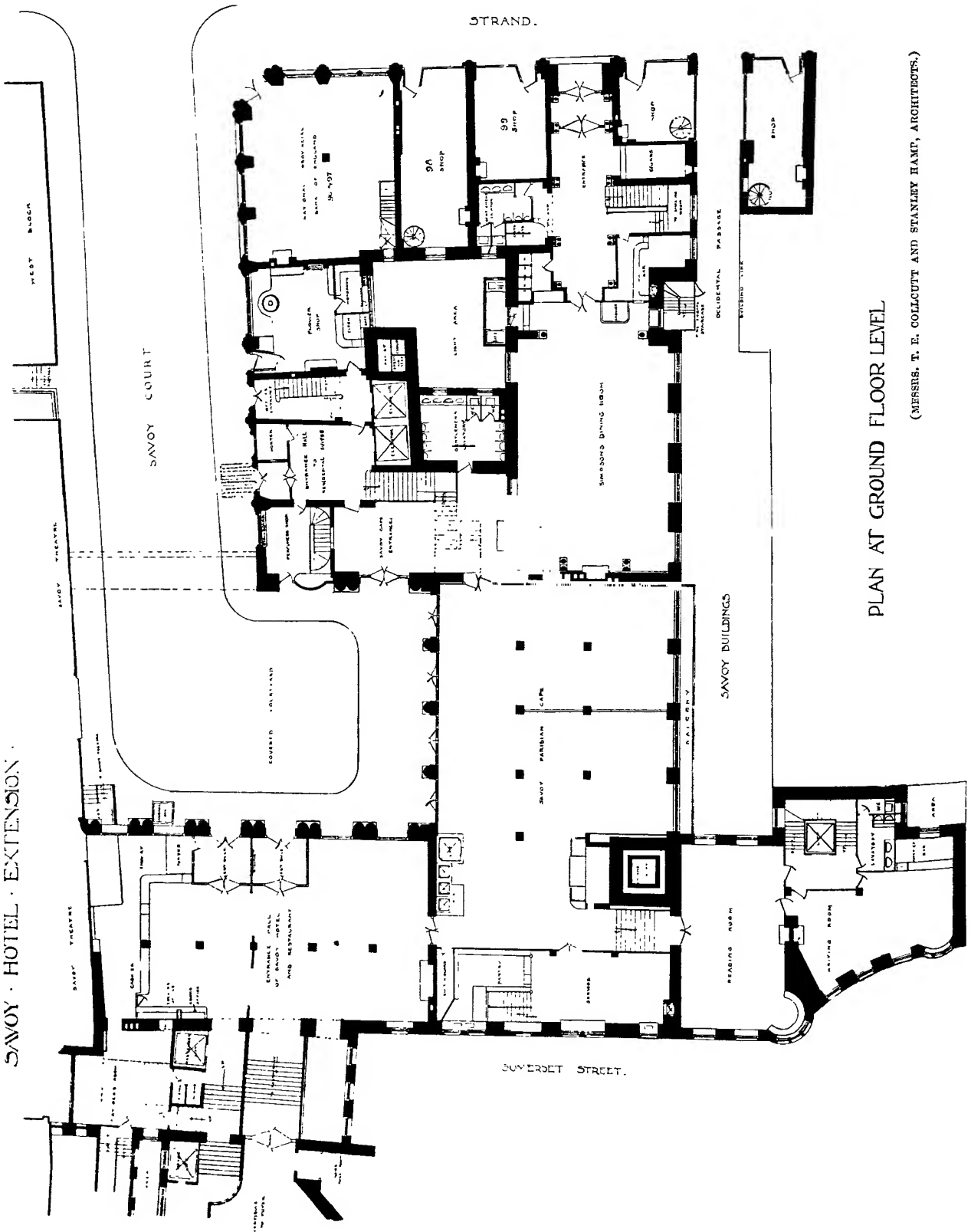
SAVOY · HOTEL EXTENSION ·
(MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)
PLAN AT FIRST BASEMENT LEVEL
SOMERSET STREET
SAVOY THEATRE
SAVOY BUILDINGS



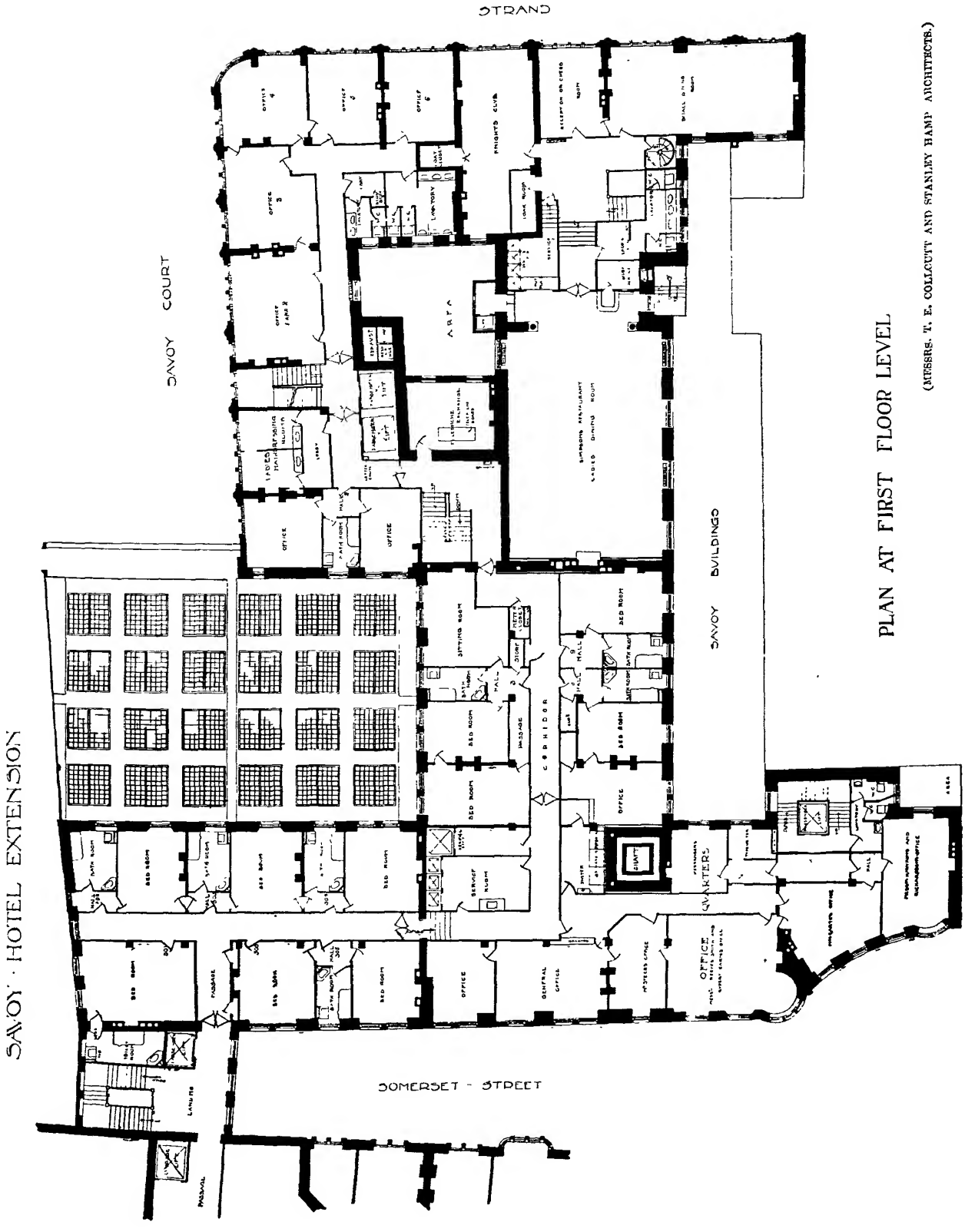
PLAN AT SECOND BASEMENT LEVEL.

(MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)



PLAN AT GROUND FLOOR LEVEL

(MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)



PLAN AT FIRST FLOOR LEVEL

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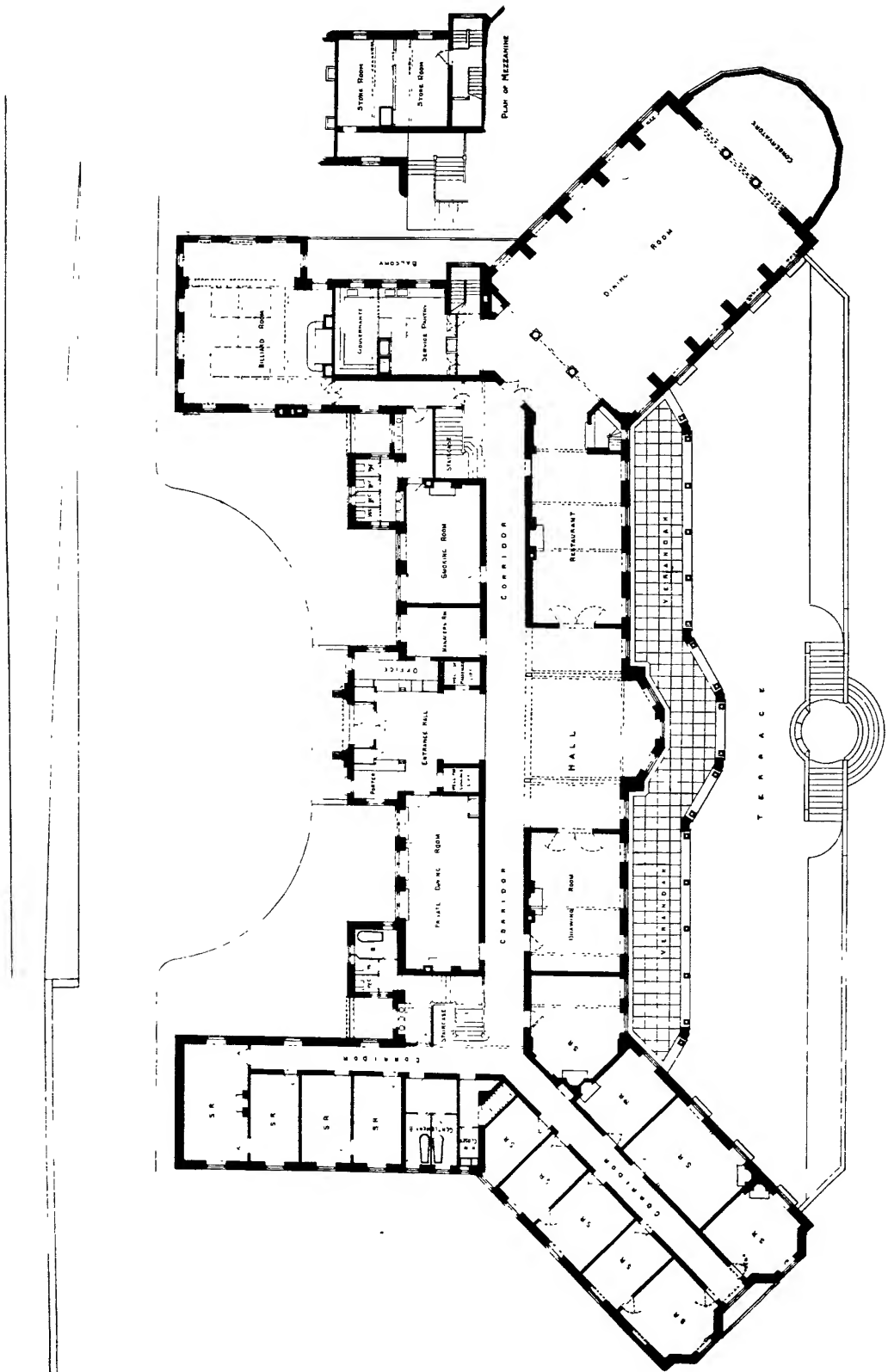
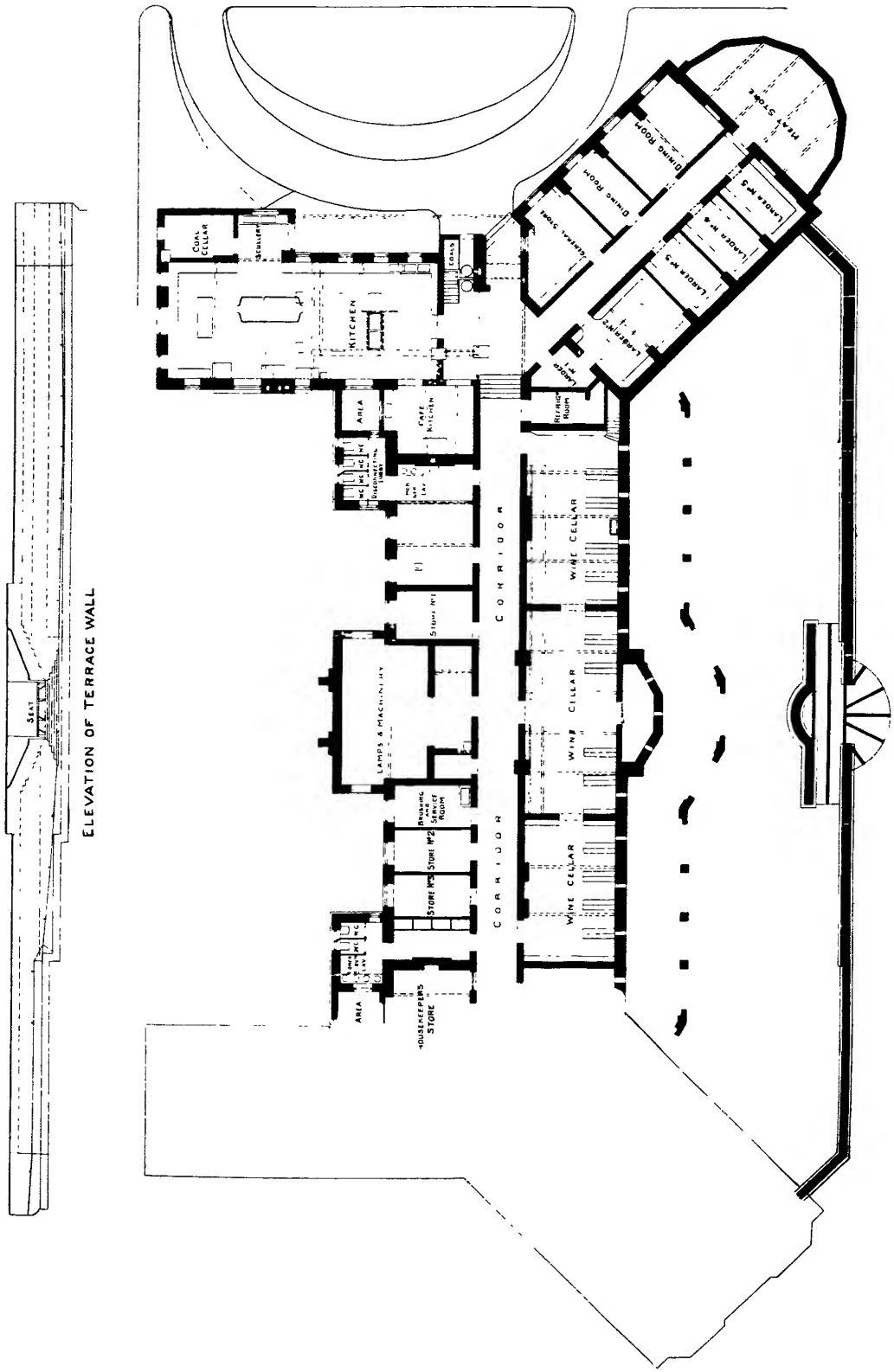
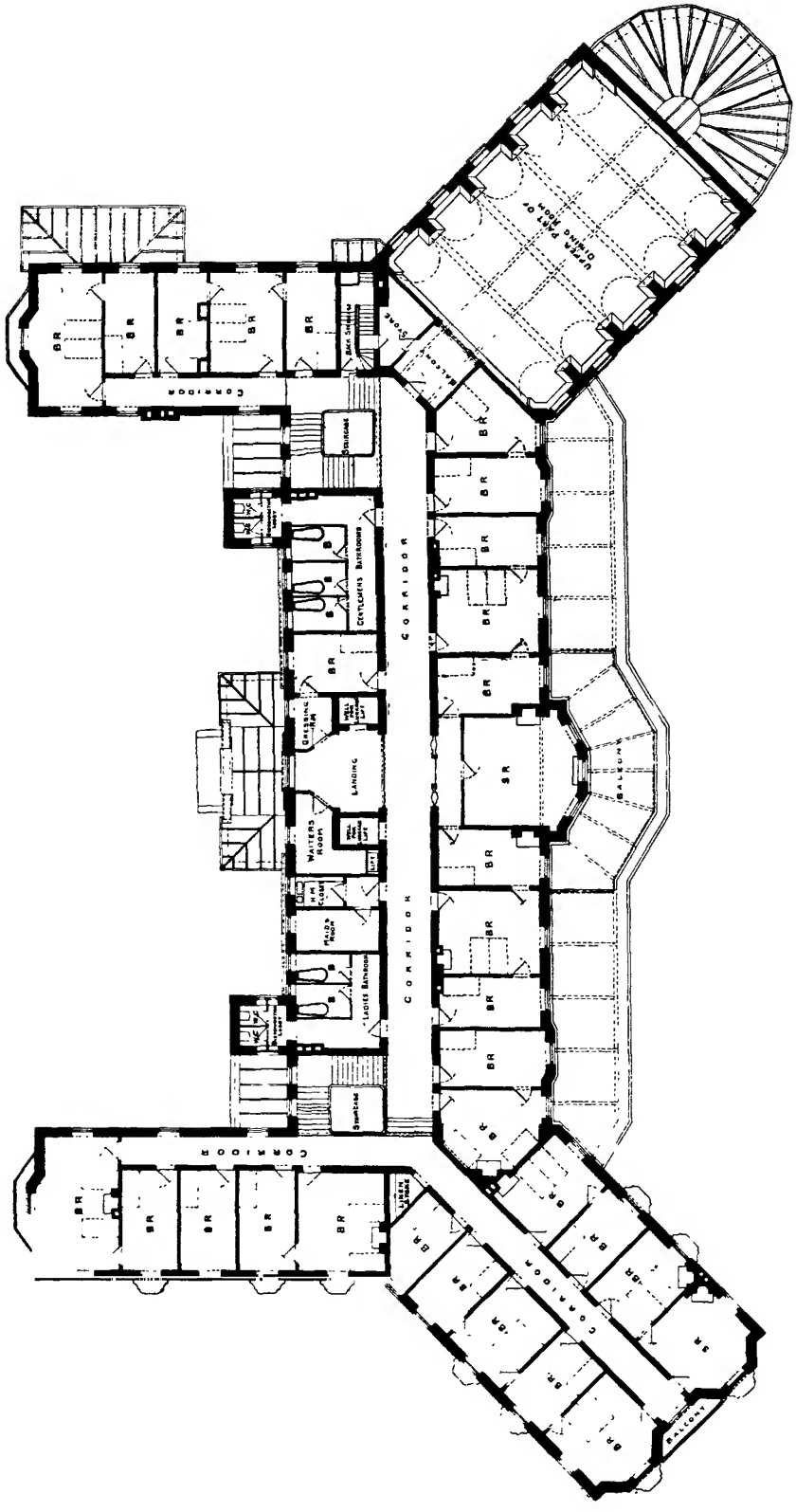


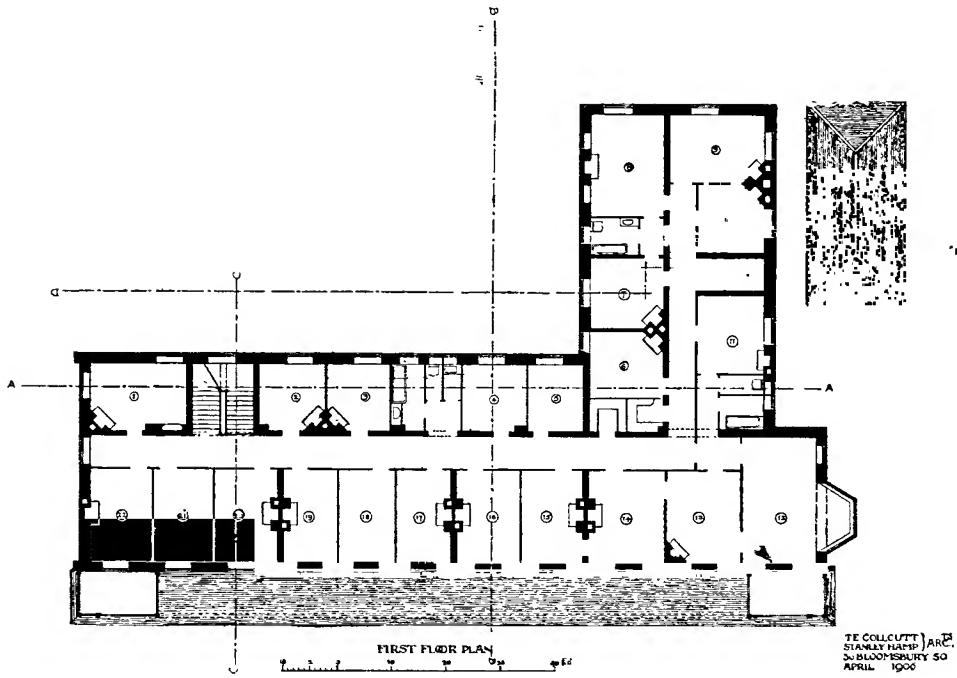
HOTEL, CAPE TOWN: GROUND FLOOR. (MESSRS. DUNN AND WATSON, ARCHITECTS.)

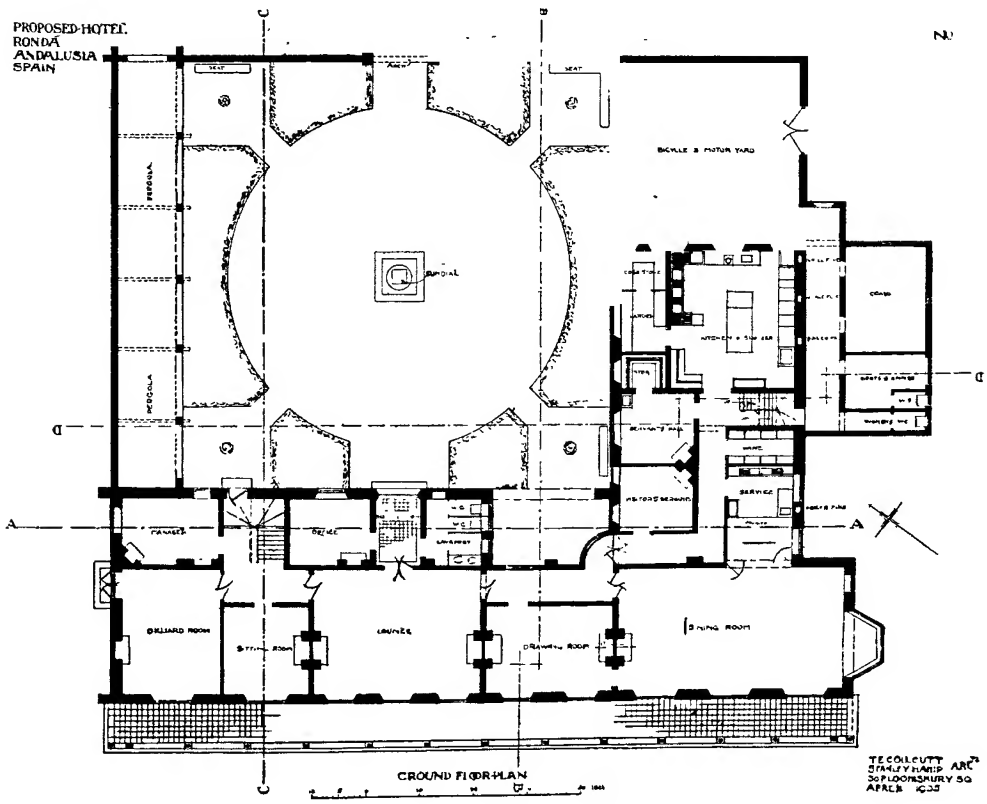


HOTEL, CAPE TOWN: BASEMENT FLOOR. (MESSRS. DUNN AND WATSON, ARCHITECTS.)

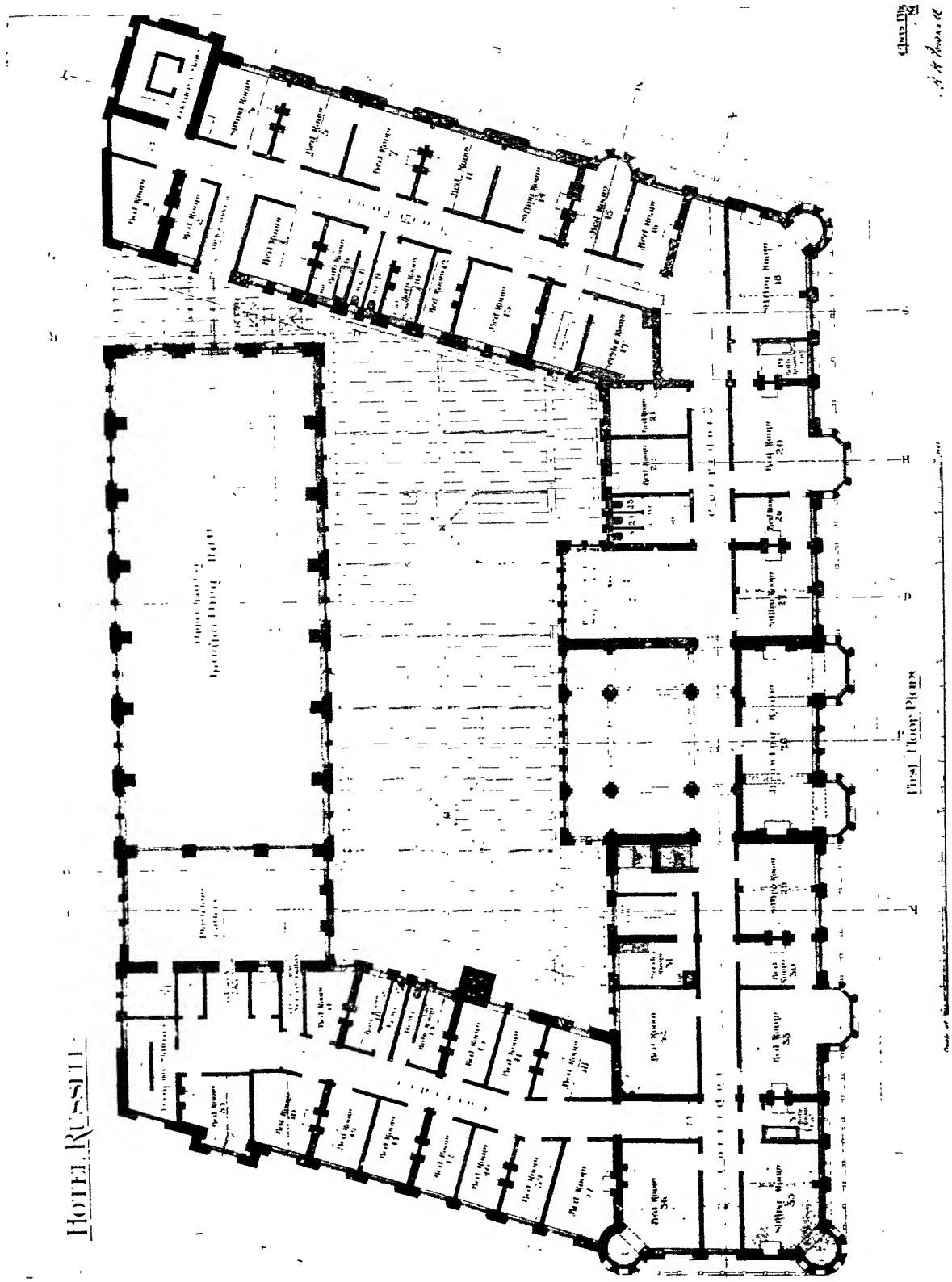


HOTEL, CAPE TOWN: FIRST FLOOR. (MESSRS. DUNN AND WATSON, ARCHITECTS.)

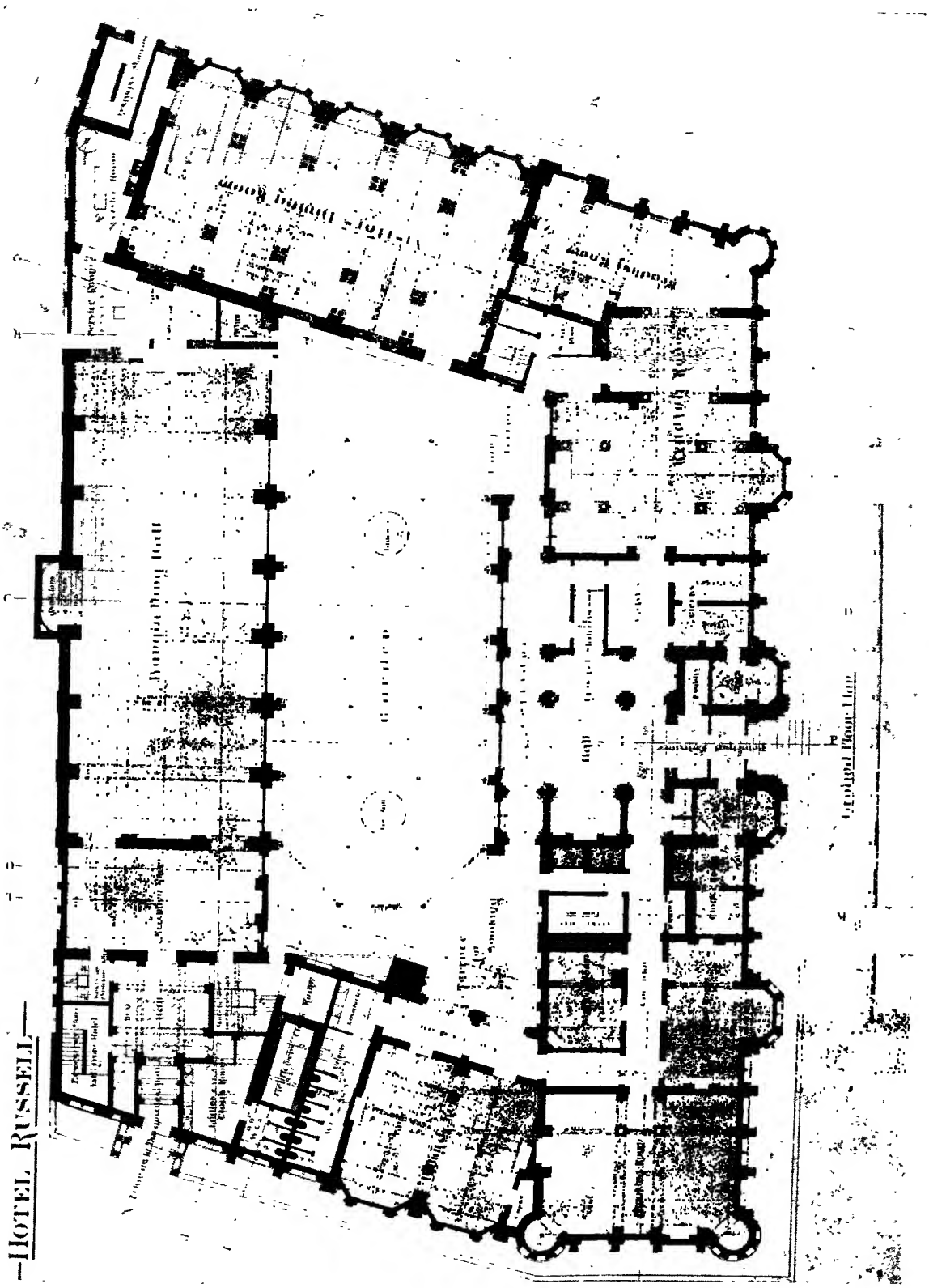




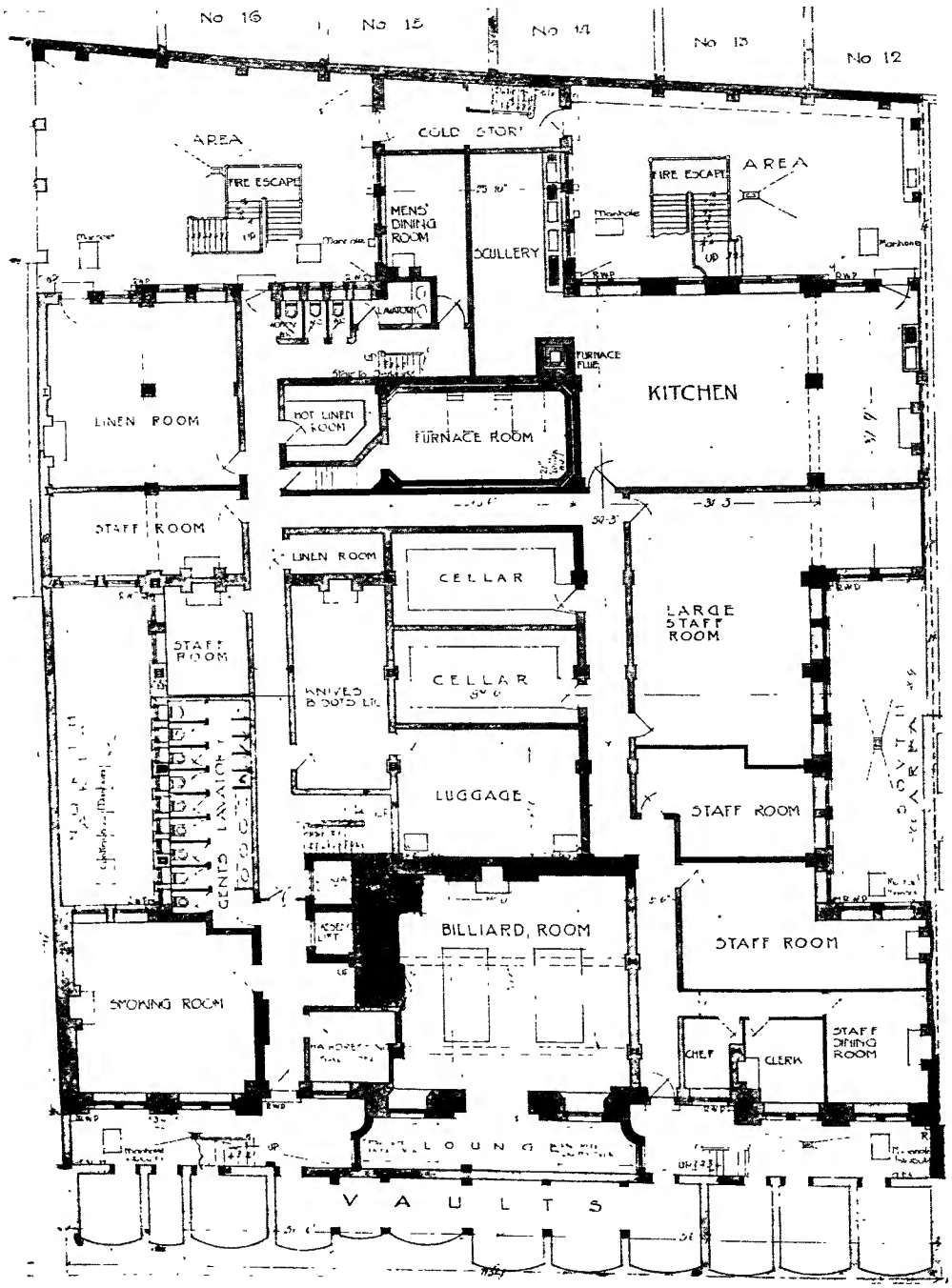
HOTEL, RONDA, ANDALUSIA, SPAIN.



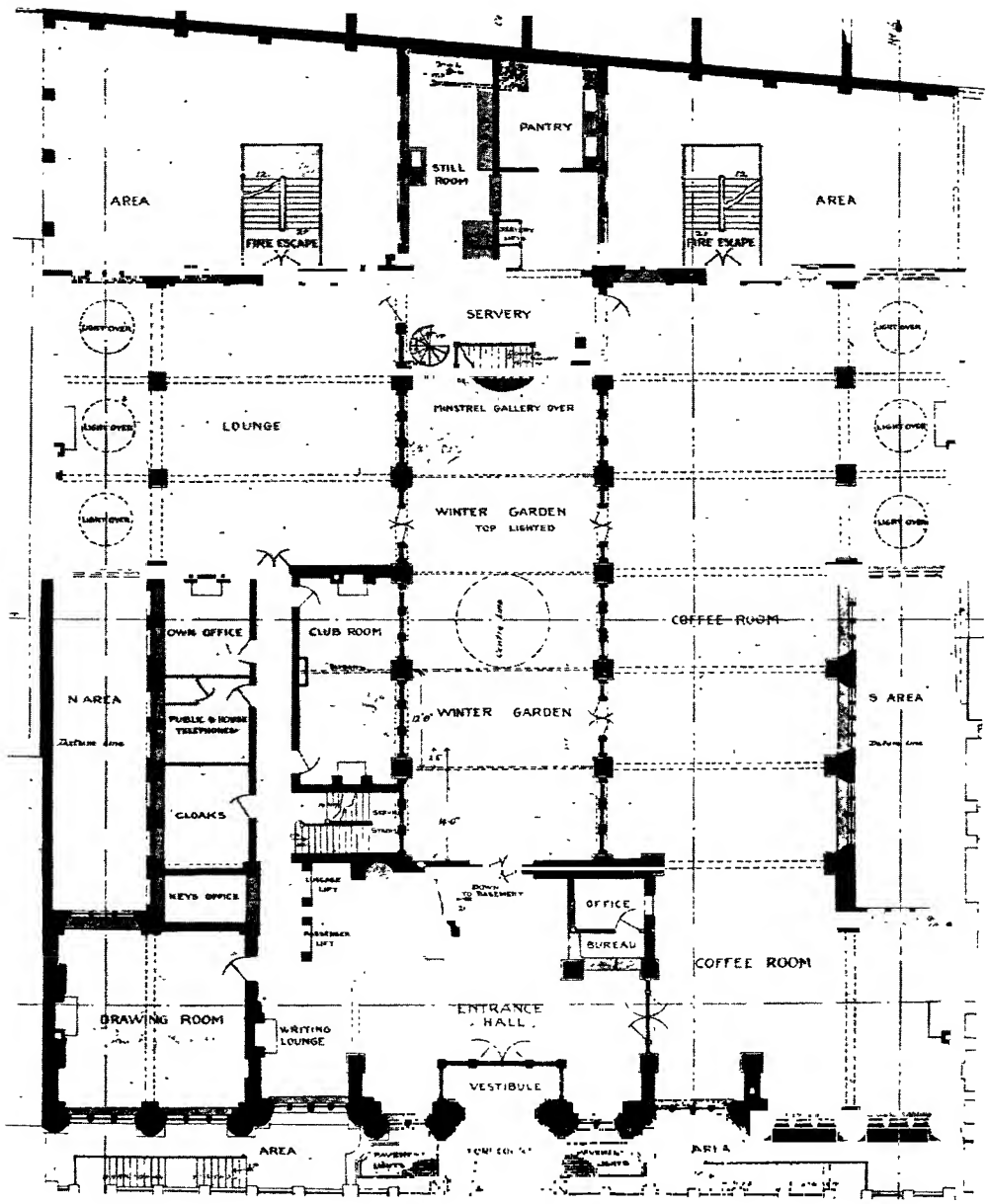
HÔTEL RUSSELL, RUSSELL SQUARE: FIRST-FLOOR PLAN. (MR. CHAS. FITZROY DOLL, ARCHITECT.)



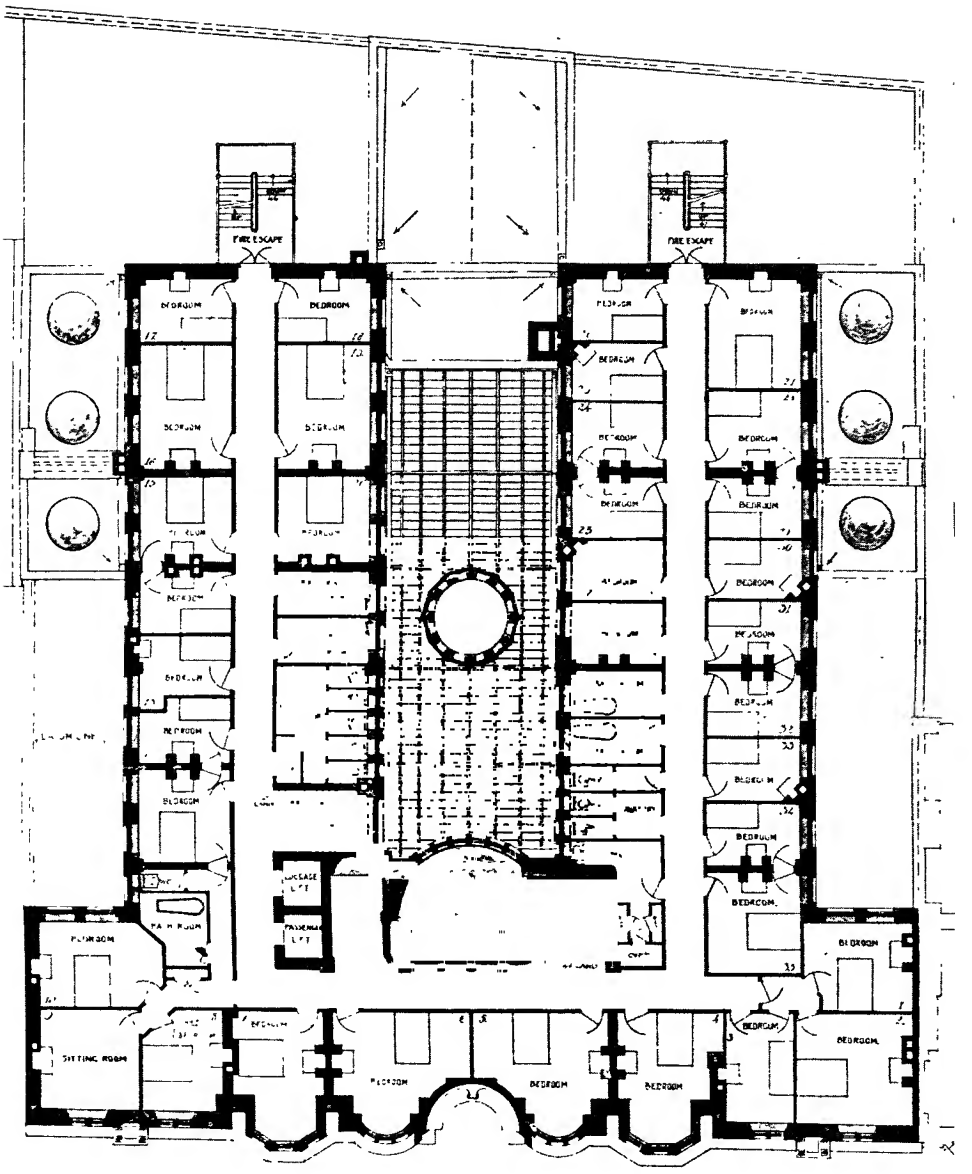
HOTEL RUSSELL, RUSSELL SQUARE: GROUND-FLOOR PLAN. (MR. CHAS. FITZROY DOLL, ARCHITECT.)



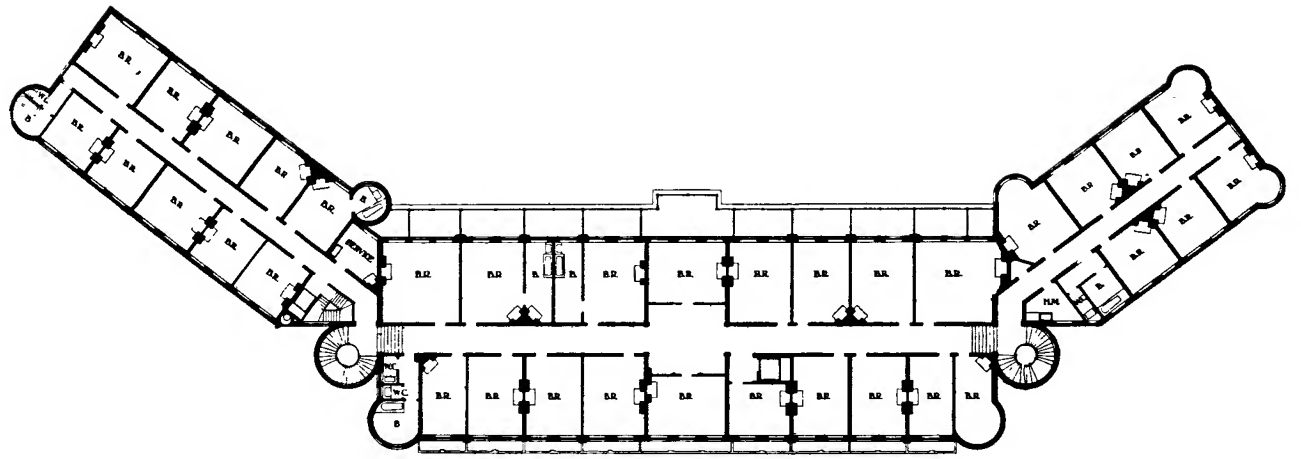
IMPERIAL HOTEL RUSSELL SQUARE: BASEMENT PLAN. (MR. CHAS. FITZROY DOLL ARCHITECT.)



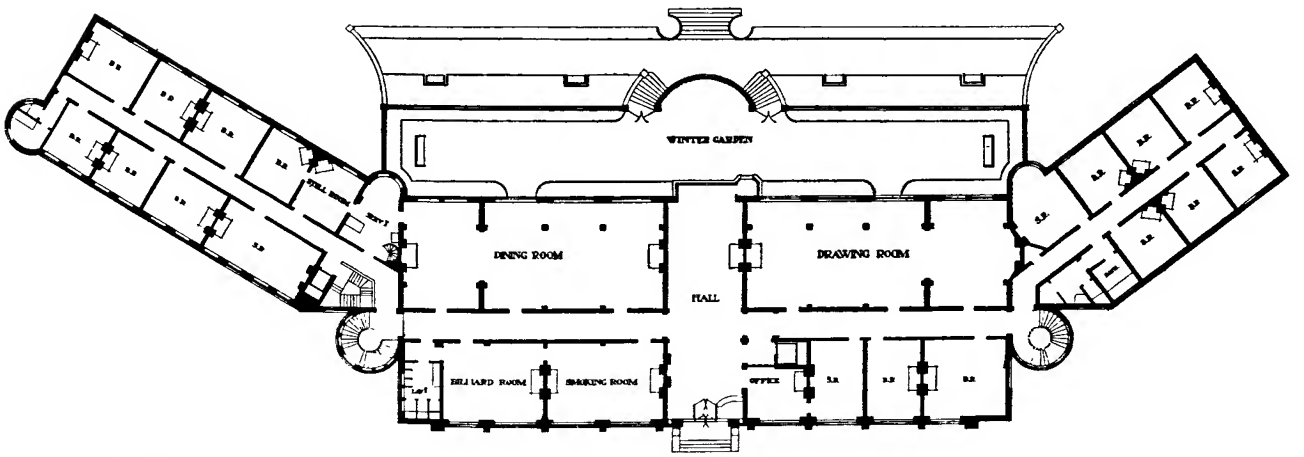
IMPERIAL HOTEL RUSSELL SQUARE: GROUND-FLOOR PLAN. (MR. CHAS. FITZROY DOLL, ARCHITECT.)



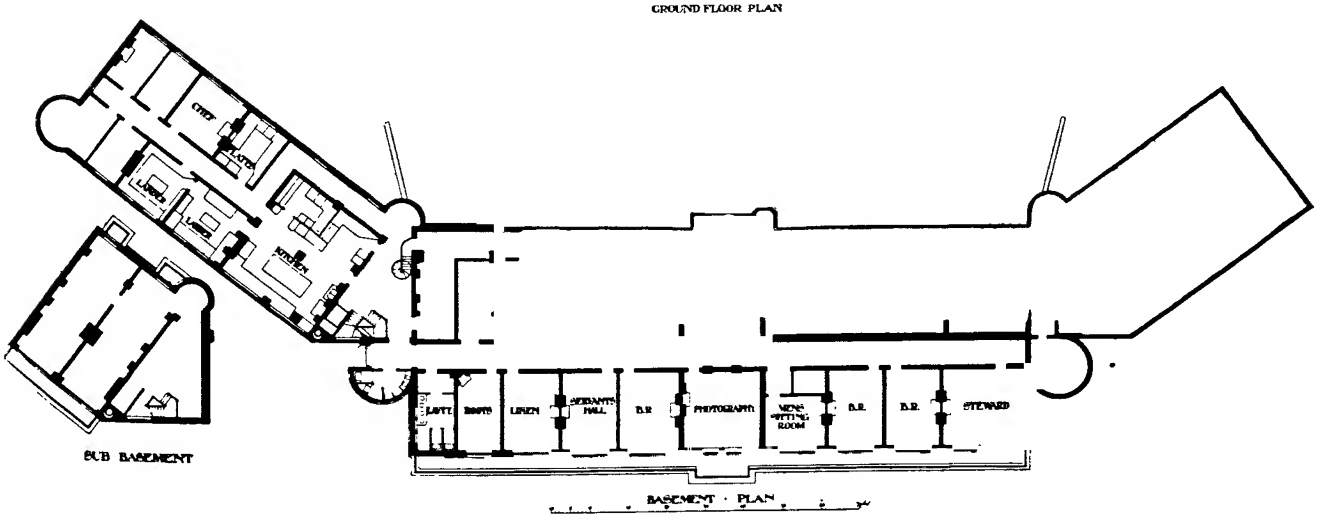
IMPERIAL HOTEL, RUSSELL SQUARE: FIRST-FLOOR PLAN. (MR. CHAS. FITZROY DOLL, ARCHITECT.)



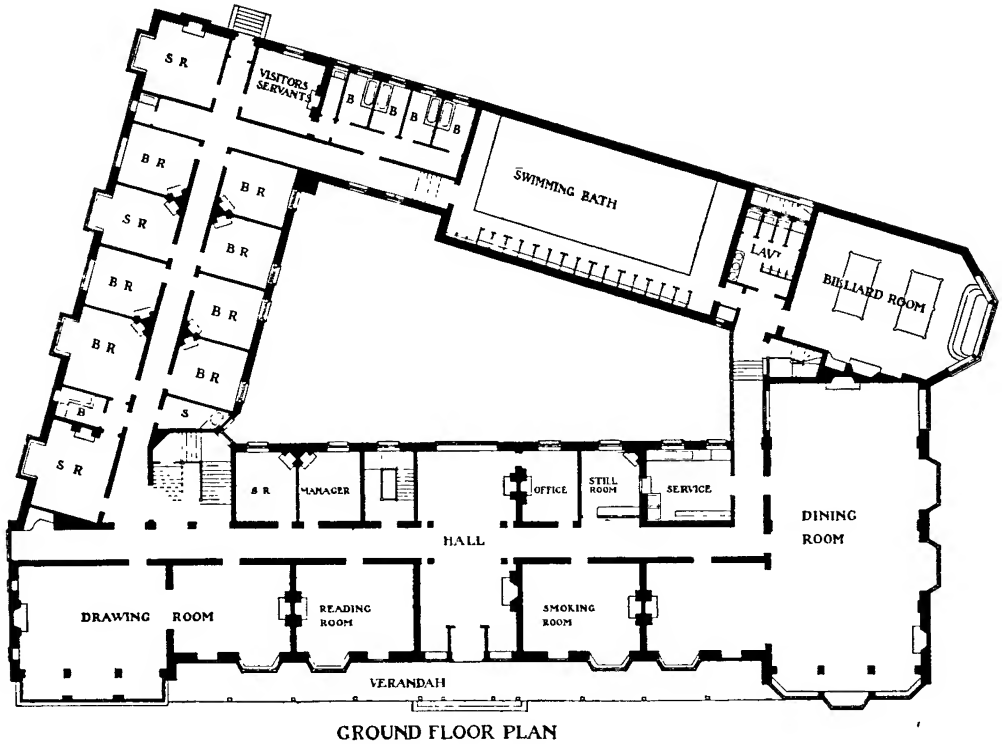
FIRST FLOOR PLAN



GROUND FLOOR PLAN

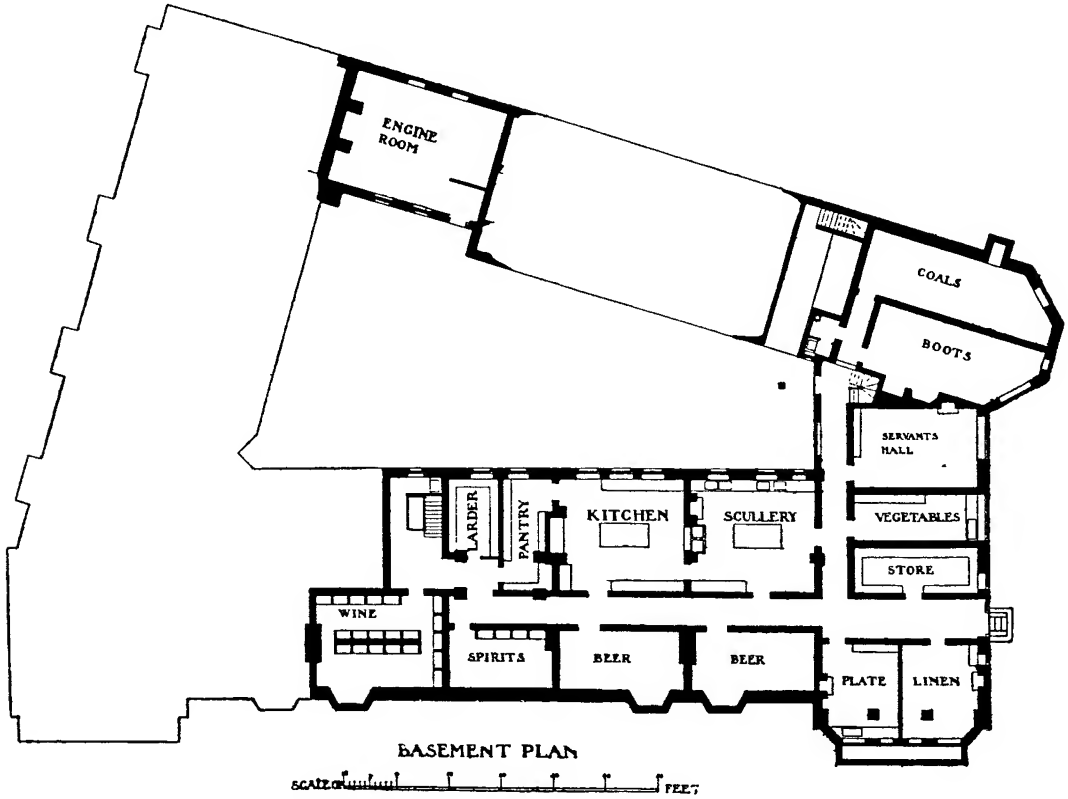


BURLINGTON HOTEL, BOSCOMBE. (MR. T. E. COLLCUTT, ARCHITECT.)



GROUND FLOOR PLAN

SCALE OF FEET



BASEMENT PLAN

SCALE OF FEET

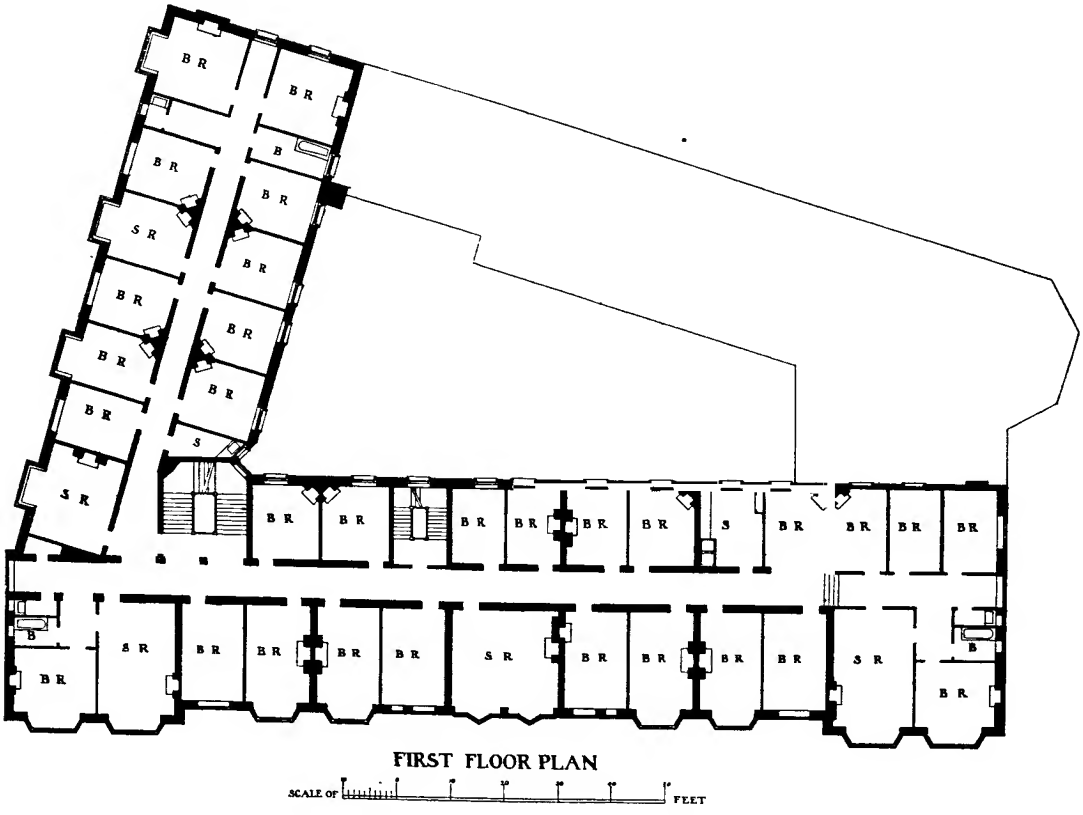
GRAND HOTEL, JERSEY. (MR. T. E. COLLCUTT, ARCHITECT.)

be compelled to pass through the lounge in their travelling cloaks to gain access to their rooms, and so that the luggage can be handled without any inconvenience to visitors.

Both the passenger and luggage lifts should be near the entrance.

The dining-room, especially in large towns, should be provided with an orchestra ; and where a ballroom is impossible the dining-room should have a dancing floor.

The feature shown in the Algeciras Hotel of the square bays leading out from the dining-room is much appreciated. They are 11 feet square, and are used largely for small dinner parties. The patio also shown there is a pleasing feature, and one largely used in Spain. Sometimes it is entirely roofed over, in which case the bedrooms open direct on to the balcony around.



GRAND HOTEL, JERSEY. (MR. T. E. COLLCUTT, ARCHITECT.)

Some of the rooms on the upper floors in all hotels should be arranged in suites, with sitting-room, one or more bedrooms with communicating doors, and small hall. Fixed wardrobes can often be provided with such an arrangement.

Communicating doors between rooms are advisable, to enable them to be let *en suite*, and should be double; in some instances it has been found also necessary to arrange for a removable asbestos deafening pad to be fixed between them.

All sash windows should be made reversible, so that they may be cleaned from the inside. Double windows should be fixed to all windows facing main thoroughfares.

Heating coils should be placed in all public rooms, staircases, corridors, and landings ; thermostats for automatically controlling the temperature are largely used in the United States.

Fire hydrants and fire alarms should be provided in all public corridors.

One might sum up the essential features in planning an hotel as follows :—

1. The maximum amount of light and air.
2. A simple and direct plan.
3. A proper distribution of the working and managerial parts of the hotel, and easy and direct service communication to the public and private rooms.
4. Centralisation of kitchen and offices.
5. Perfect sanitation.
6. Adequate means of escape in case of fire and panic.

The lounge is quite a modern introduction in England. That it lent an added attraction to the modern hotel was quickly recognised, and nowadays no architect of a first-class house would think of leaving it out of account in his plans. It is, moreover, almost the universal rule for hotels making enlargements and improvements to introduce the lounge as a new feature, and what was once an innovation has now come to be regarded as a necessity by visitors. The comfortable and luxuriously approached lounge is the popular place for afternoon tea, as well as for coffee and a cigar after dinner. This does not do away with the necessity of a smoking-room exclusively for men, or the drawing-room for ladies, although the latter room need not be of large dimensions, and can often be arranged on the first floor.

A favourite and successful method for the acquirement of bed and sitting rooms is to build them in suites with a lobby, which forms a small hall from which lead bedroom, sitting-room, and bathroom, and in addition a smaller bedroom may be planned adjoining with communicating doors, so that the suite may, if desired, be extended.

The bathroom, although it has now become an important feature, should not be made too large. It is remarkable how small a room will hold a bath, lavatory basin, and w.c. comfortably. You will observe in the Savoy Hotel plans, where new bathrooms have been arranged on the Embankment front, how the best use has been made of a small floor space available. It is becoming the fashion now for each bedroom to possess its own bathroom with lavatory and w.c., with a steam-heated towel-rail in addition. It is also becoming usual now to provide fixed wardrobes to bedrooms in place of movable pieces of furniture. There is a plan showing how this has been arranged at the Ritz Hotel.

Another feature of modern hotels is the attention that is being directed to the provision, not only of ordinary baths, but of Turkish, electric, and medical baths also. The comforts of an hotel are undoubtedly enhanced when, for example, the equipment includes special baths, such as Turkish baths, hot and cold sea-water baths, and electric baths, and a source of considerable attraction and value is thereby gained. English people are slowly but surely realising that treatment by means of baths for the relief of certain ailments, such as gout and rheumatism, may be just as efficiently conducted at home as abroad.

The construction and arrangements of lifts is another important matter. They should be near the office—that is to say, just by the entrance hall. If there is a large and constant flow of guests, as in some large American hotels, one lift is used for ascending only and another for descending only, and in some cases there are six or as many as ten elevators side by side, each capable of holding ten to fifteen persons. By the side of the lifts there is often a glass cage which is used for letters. If a guest on the twentieth floor wishes to send a letter to the post he puts it through the aperture in the glass and it falls to a letter-box in the entrance hall, which is emptied at the same time as the letter-boxes outside.

Service lifts from the kitchen department and still-rooms are required from the basement, delivering on all floors to ensure quick service to sitting-rooms and bedrooms; wine dispense lift to ground floor ; luggage lift from basement to top floor, delivering on each floor.

These may be run by hydraulic or electric power, the latter, I think, much preferable.

In speaking of the waiters' services for a large dining-room or restaurant where *à la carte* prices are obtained it is found to be more satisfactory to provide a wide stairway or sloping way to the kitchen in place of lifts, which must be planned so that the entrance and exit are entirely separated. The best arrangement undoubtedly is for the kitchen to be on the same floor and immediately adjoining the dining-room, but as a rule the ground floor is considered as valuable for this purpose.

Electric lighting is now in use in the majority of the larger London and provincial hotels, and of these not a few have their own generating plant. The exact point at which a private plant is more economical than a supply from the public mains depends most largely on the power required in each particular case. The reasons why in some instances it is more economical to create electric current than to buy it, is that an hotel must instal steam boilers for the supply of steam to the kitchens, still-rooms, radiators, and for the production of hot water, and that the steam required for these purposes is practically as efficient after it has worked an engine actuating a motor—that is to say, the exhaust steam from the engines will answer the purpose as well as direct steam.

The drawbacks to the production of energy are the vibration from the engines and greater heat in basements owing to increased consumption of coal.

Hotels, particularly when of a large size, require a considerable amount of engine power. There should always be a reserve generating unit as a provision against an emergency of any kind.

In the Hôtel Métropole, Chicago, until recent years they were supplied from a central power company, and the cost of illumination averaged £160 per month; and a steam plant also operated in the hotel to heat the building at a cost of £150 per month, and the elevators cost a further £40. A new electrical equipment was supplied by the Westinghouse Company. Two water-tube boilers of 225 horse-power each were installed, &c., which reduced the cost to almost half. The plant is designed to furnish light, heat, and power to all the various departments of the hotel. The greatest care should be taken in the placing of the machinery, or serious inconvenience will be caused by the noise and vibration travelling through the building. If this is not considered, disastrous results will follow. In any case a boiler of sufficient power and capacity is required for supplying reduced steam for cooking (with an auxiliary boiler as a stand-by); also for heating water for hot-water circulation throughout the building; for draw-off purposes for baths, lavatories, and sinks by means of calorifiers and tanks, with a separate or auxiliary supply for the kitchen department, so as to be independent of the general supply in case of necessity.

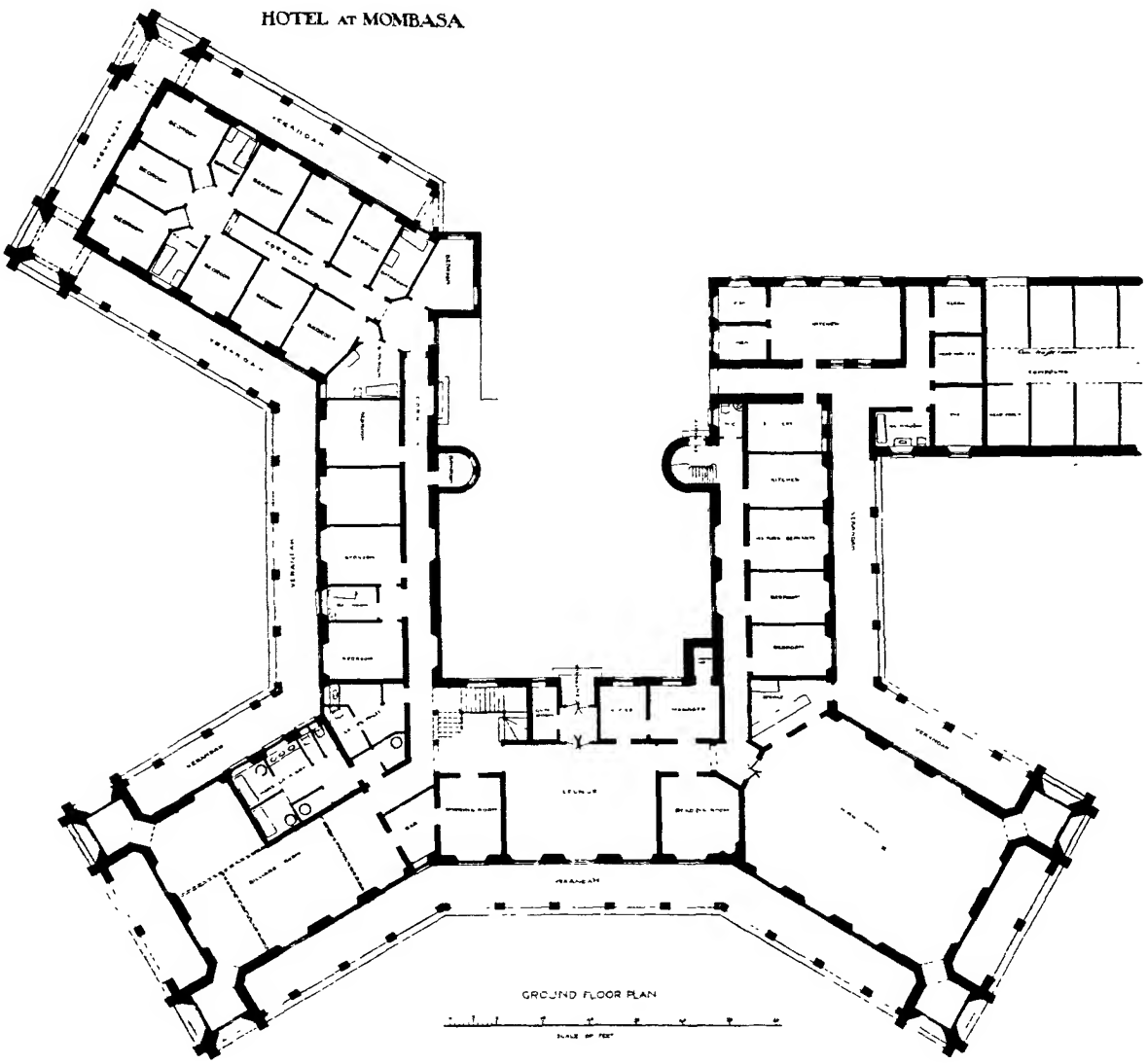
Linen store-rooms and linen mending-rooms with airing store-cupboards should be heated with steam or hot water. The linen-room on the upper or bedroom floors of hotels can be heated off the bath circulation, or, if near the service pantries, a branch from the small hot closet's steam supply is best. The steam boiler would also be large enough to supply steam for heating apparatus.

The importance of good ventilation in an hotel can hardly be over-estimated, and requires very careful consideration. I am told that the most perfect and recent system of ventilation is that in use at the Midland Hotel, Manchester. Here, by means of two fans revolving 180 times per minute, $2\frac{3}{4}$ million cubic feet per hour of fresh air, cool in summer and heated in winter, are introduced into the building. The air is filtered through a screen of special material, which has an area of 320 square feet exposed to the air inlet. This screen extracts all the soot and chemicals, clearing the air as it passes through, the largeness of the area of the screen making the resistance to the fans as little as possible. Besides the supply of fresh air, ventilation, of course, involves the extraction of the vitiated air, for mere dilution of

foul air is not good ventilation. The air extraction and ventilation of the guests' rooms should be absolutely separate from the other portions of the buildings, and special attention has to be given to the extraction of air and heat from the kitchens, laundries, and such places, especially if they are in the basement.

Two questions of great moment have to be considered with regard to the fire alarms in hotels: (1) Shall the alarm be a universal one? (2) Shall the alarm be given only to the officials and the staff?

The latter course, I think, is the correct one. If a universal alarm be given a serious panic might easily arise, whereas the action of a well-trained staff might avoid a serious outbreak in the event of actual danger. If we agree that this system is best, let us deal with it accordingly. In a suitable spot in each corridor on every floor of the hotel should be fitted a fire-alarm contact, preferably in a cast-iron case, and of the "break-the-glass" type, which is

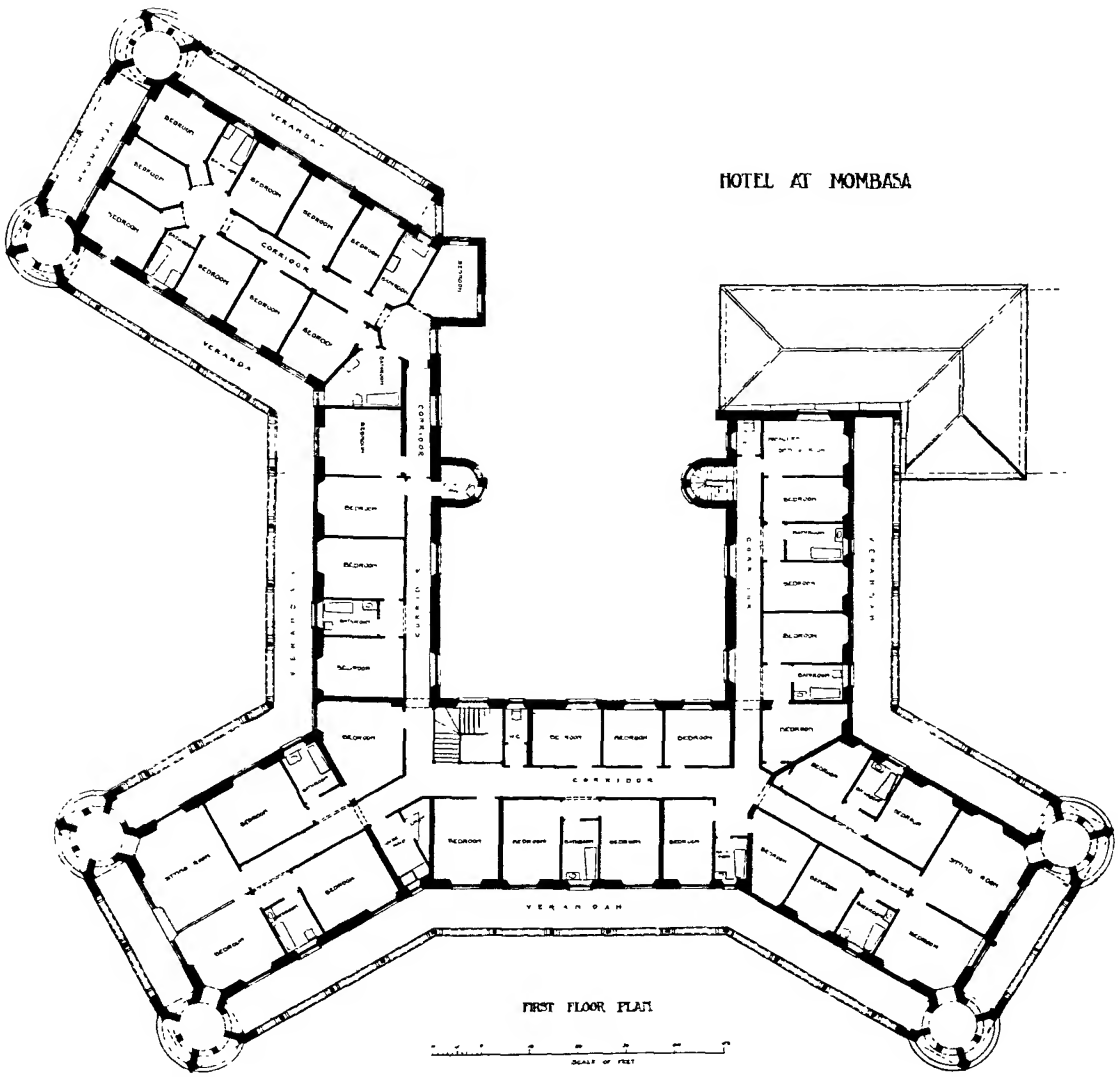


HOTEL AT MOMBASA, EAST AFRICA: GROUND-FLOOR PLAN. (MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)

the most efficient contrivance at present upon the market. Inside the box is a metal plunger, which presses against the glass and comes forward as soon as it is broken and gives the alarm.

One service-room on each floor should be equipped with an indicator and an alarm bell. On the face of the indicator would be numerous little apertures of about one inch square, each aperture representing a corridor on the various floors. Hence, should a fire break out in the main corridor on the sixth floor, and the alarm be given in the manner already indicated, the bell would ring in the service-room on each floor, and upon every indicator would appear a red disc in the aperture, indicating, for instance, "main corridor, floor 6th." Then the staff on each floor would know exactly in which corridor the fire had broken out.

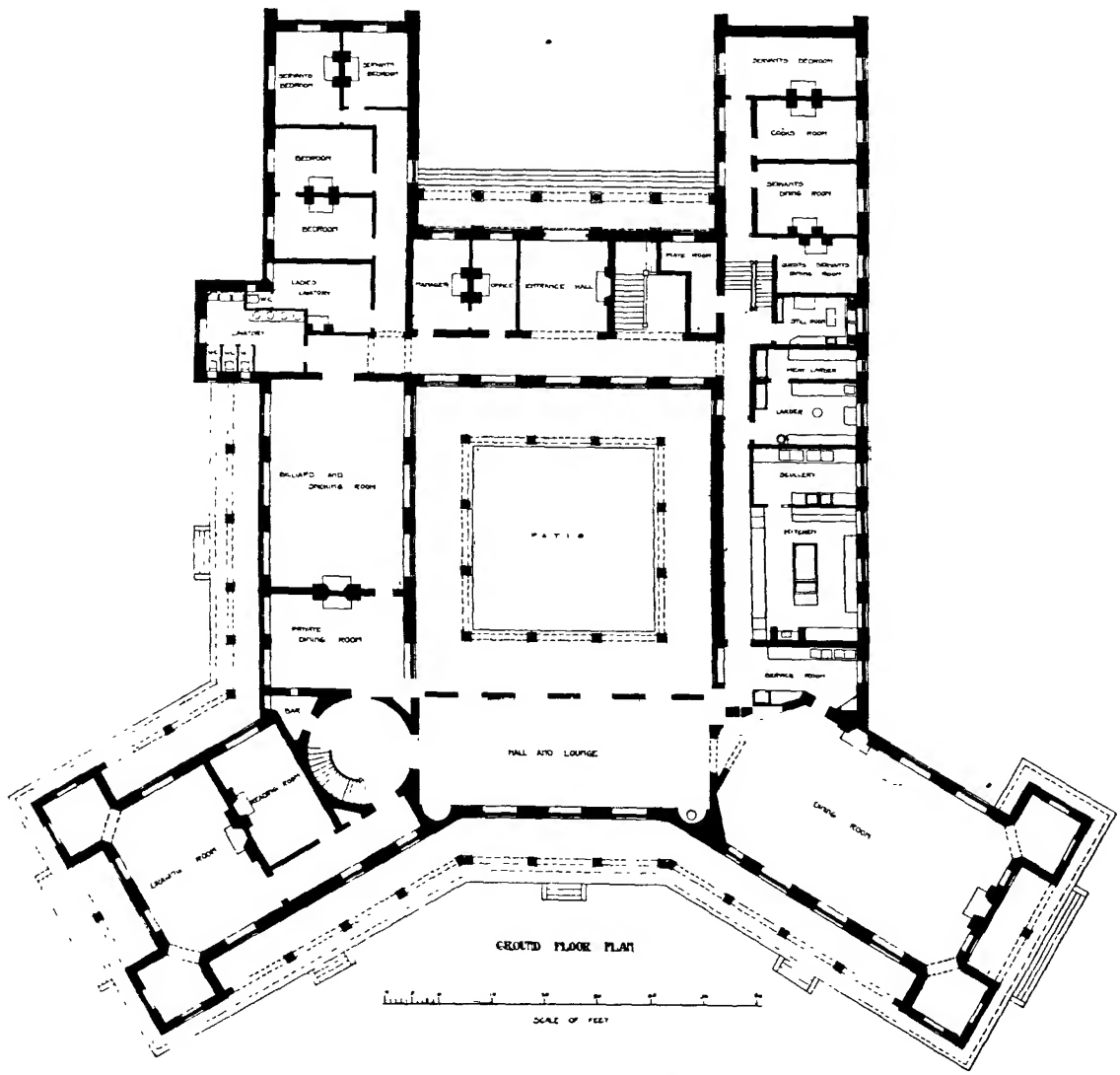
Fortunately some time has elapsed since we were electrified with vivid reports of the last great hotel fire, and the hope is, of course, that the warning thus given has had its due effect. It is undoubtedly true that most of our London hotels are to a certain extent safeguarded against fire; but whether the means taken are sufficient to ensure complete safety time and experience alone can tell. It must not be forgotten that the danger is always with us. The



HOTEL AT MOMBASA, EAST AFRICA: FIRST-FLOOR PLAN. (MESSRS. T. E. COLLCUTT AND STANLEY HAMP, ARCHITECTS.)

Savoy Hotel, being one of the largest in town, is well provided with means of escape; and if a fire occurred there would be little chance of it spreading. There are buckets and hand pumps, &c., on every floor, and the building is divided into sections by fireproof doors. The Grand Hotel is also practically safe against a big outbreak. It is in the hands of two firemen and twenty-eight well-drilled menservants. The building is patrolled every night by a fireman, who has to record his movements by an electrical device connected with the manager's office. Similar arrangements are made at the Hôtel Métropole. Here I understand that there is an arrangement with the superintendent of the Fire Brigade at Scotland Yard to put the men through their paces once a week; often an electric fire alarm is rung without any previous warning to test the efficiency of the staff. The danger of a fire and consequent panic in an hotel filled with guests is one surely which should be well pondered over by the proprietor of every establishment.

The "vacuum" cleaner is an innovation welcomed by the hotel manager. The labour

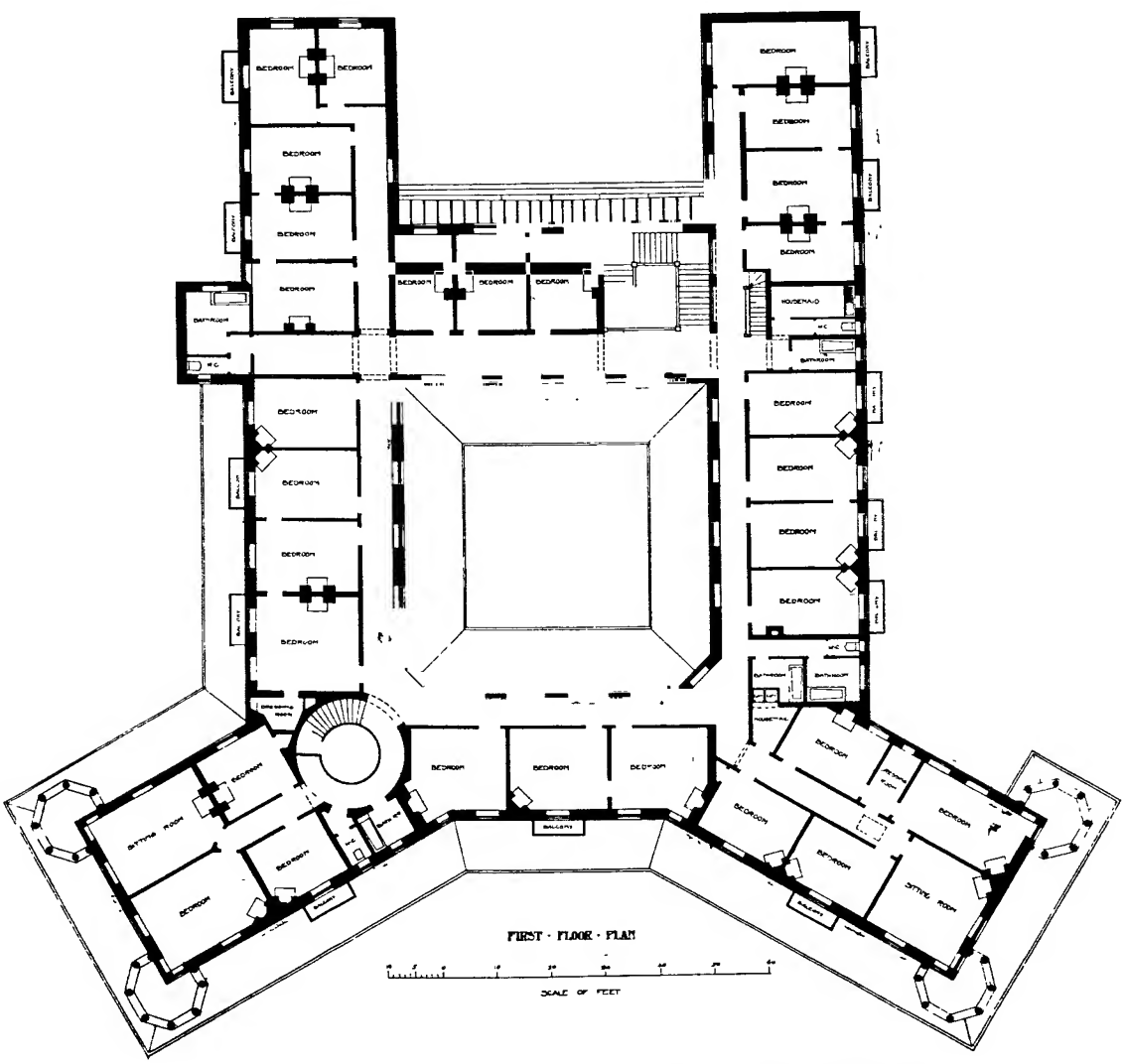


HÔTEL REINA CRISTINA, ALGECIRAS: GROUND-FLOOR PLAN. (MR. T. E. COLLCUTT, ARCHITECT.)

involved in cleaning a big establishment is enormous, and can be greatly minimised by that useful invention. Three have been installed in the Savoy Hotel, and have proved a great success. They can be used easily and at any time, being worked by an electric motor in the basement. The iron pipes in connection with the vacuum pump are carried up in the lift shafts and provided with connections on every floor. Flexible tubes are connected up to these points, the tubes being of sufficient length to reach every room on any particular floor.

The inestimable value of the telephone is now generally recognised in the business world, but its special utility as an hotel aid is also an established fact. Where the bedrooms of a large hotel are in telephonic communication with the office, guests can give their orders direct, thus saving much wear and tear so far as staff is concerned.

The uses and advantages of telephones in hotels are so numerous that to attempt to portray the whole of them in this Paper would be altogether out of the question. A few remarks on the subject, however, will, I think, serve to convince even the most dubious that the telephone is now no longer a luxury, but an absolute necessity in every well-appointed hotel.



HÔTEL REINA CRISTINA, ALGECIRAS: FIRST-FLOOR PLAN. (MR. T. COLLCUTT, ARCHITECT.)

A great many hotel proprietors, whilst fully recognising the utility of the indoor telephone, argue that the expense of installation would be too much for their pockets. Did they just give the matter sufficient thought, however, they would see that this is extremely short-sighted policy, as, although of course there is the initial outlay to consider, the fact must not be lost sight of that the telephone is essentially a labour-saving appliance the use of which enables the hotelkeeper to reduce his staff of servants, thus effecting a considerable saving in wages—a point well worthy of consideration. It may be safely said that in an hotel fully equipped with telephones three servants could easily cope with work which would otherwise fully occupy the time and attention of four or five.

In each bedroom a telephone should be fitted, preferably within easy reach of the bed, so that when a visitor is in need of anything all he requires to do is to press the push-button in the instrument and give whatever instructions he may desire through the telephone in the usual way. Where telephones are not fitted it would obviously be necessary for the servant to come all the way from the service-room, take the order, go back again to procure what was required, then deliver it and again return; it will therefore be seen what a great amount of bustling and running about is saved in this respect alone.

The private telephone exchange through which the domestic service passes should also be in connection with the public exchange, so that guests can, if they wish, transact their business from their sitting-rooms or bedrooms.

It is the internal arrangement of the kitchen and offices which most concerns an hotel manager, and the architect should, where possible, consult him if he is to obtain satisfactory technical results.

Practical men know full well that although modern ideas insist upon lavish expenditure in the decoration and furnishing of the public part of an hotel, yet it will not do to neglect the kitchen. As a matter of fact the kitchen is the laboratory where the reputation of the hotel is made or marred. I propose, therefore, to deal somewhat in detail with this important department. Give the kitchen staff plenty of light and ventilation, and let the ranges, grilles, and ovens and hot plates be of the best procurable, and see that plenty of utensils are at hand. The greatest loss in many an otherwise thriving establishment chiefly goes on in the kitchen.

Everything bought for the hotel should pass through the receiving-rooms, also everything sold by the hotel, as wines, &c. No bills should come to the receiving-room. The clerk there is only interested in receiving the goods; the matter of prices concerns the auditing and controlling departments only.

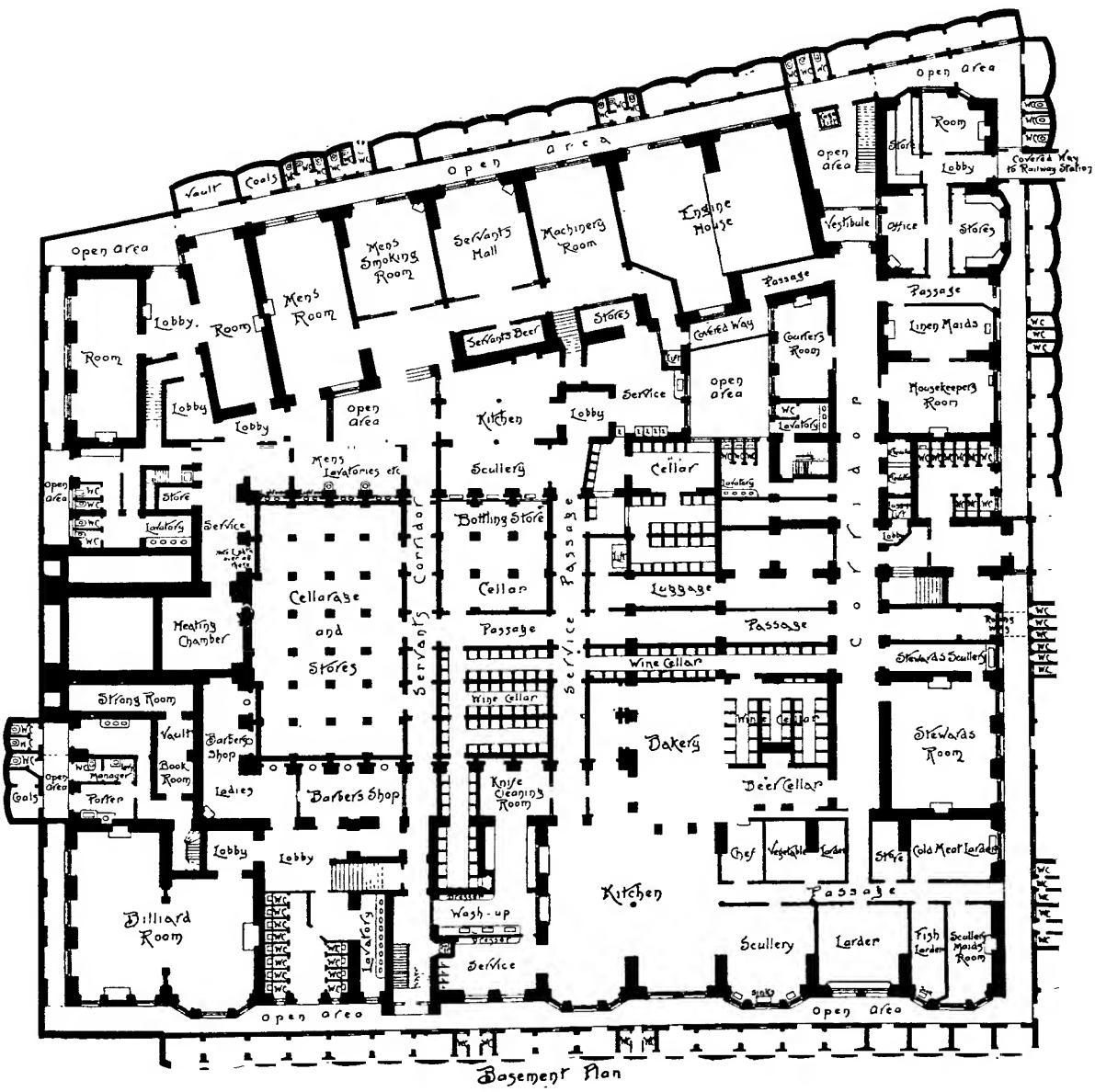
The walls of the kitchen, scullery, and larders should be either white tiles or glazed brickwork, and the floors of stone or "granolithic" or terrazzo.

The fittings (which I have no time to deal with to-night as they form a subject in themselves) should be of the best. Cheapness is false economy.

The position of the kitchen used to be a debatable point before electricity came so much into use, as to whether it should be on the top floor or in the basement; but with the application of electrically driven propelling fans and tubes for the supply of fresh air, and extracting fans fixed at the top of vent-tubes, and vent-shafts, it is now recognised that the most convenient position for the kitchen is on the same floor as the principal dining-rooms, or failing that on the floor, probably basement, immediately below them.

In the first place it is difficult to arrange proper draughts for the various flues for the cooking appliances on the top floor, for want of length of flue. It also prevents the use of the descending flue from hot plates, &c.; they would have to be ascending because of the rooms

below the kitchen, and this spoils the arrangement of the tops, because of the flues having to come through the top, and helps to make the kitchen hot by a long length of more or less heated flue tube. Neither can larders be kept so cool on a top floor, nor any of the general rooms and stores attached to the kitchen department; and servants' bedrooms, which would be more healthy at the top, have then to be placed in the basement, the kitchen department having taken the greater part of the top floor. Again, if the kitchen is so placed, all goods which are received in the basement would have to be sent up by lift, including coals, and all food after being cooked would have to be sent down again to be consumed. All kitchen refuse, cinders, ashes, vegetable matter, waste, would have to be brought down to the basement, entailing additional lift power and men. Whereas in hotels with the kitchen below the bulk of the food travels once up one floor, from basement to ground floor.

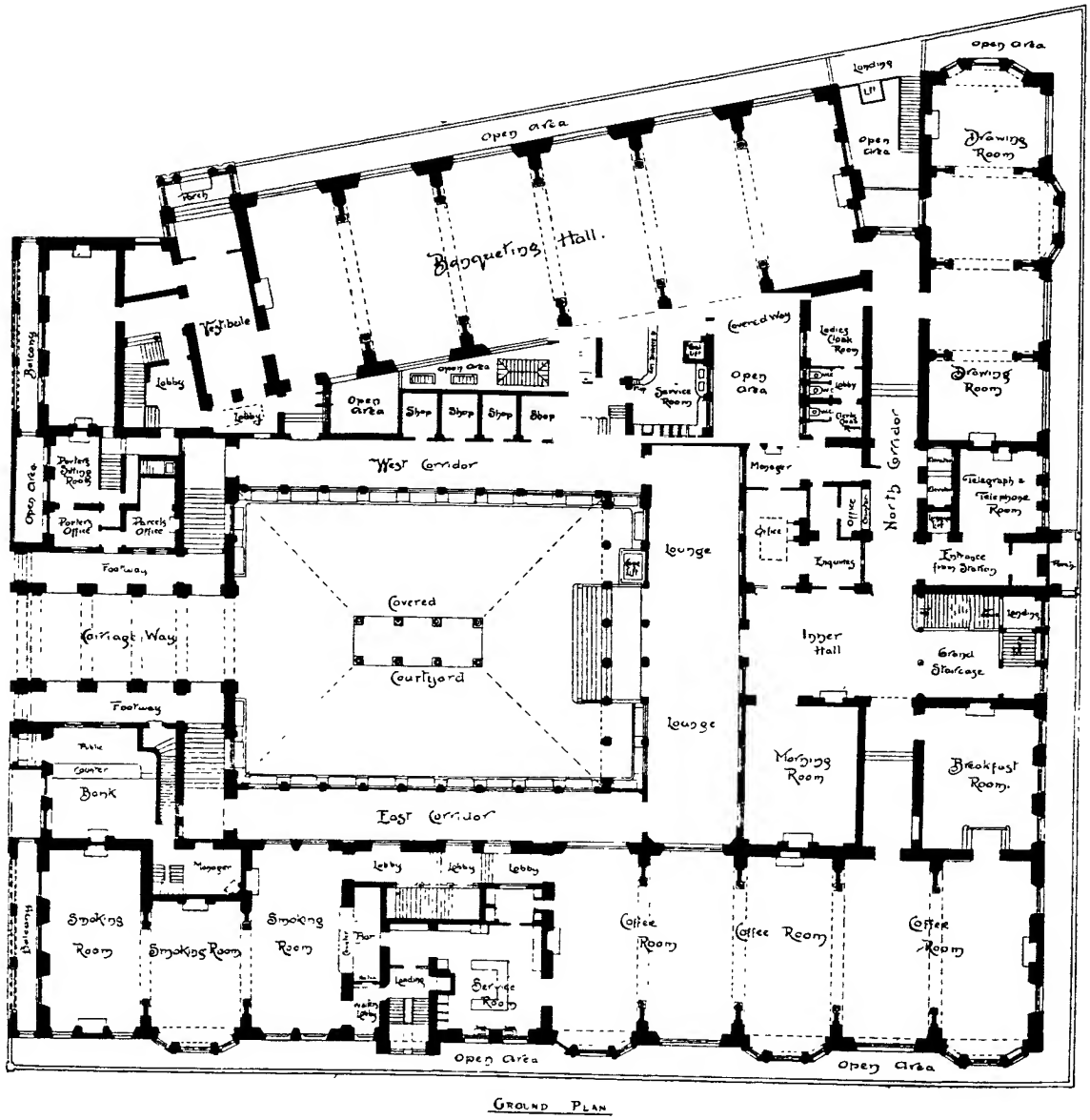


HOTEL GREAT CENTRAL, LONDON: BASEMENT PLAN. (COLONEL R. W. EDIS, ARCHITECT.)

In setting out the kitchen, larders, &c., it is advisable that the food and goods should come in on one side of the tradesmen's entrance, and after having been weighed and checked by the receiving clerk and timekeeper, who also records the going and coming of servants as well as goods, the various articles can be distributed to their proper places, such as stores, larders, which should run along corridors each side of the kitchen.

The kitchen may be said to be practically divided into five working sections, consisting of roast, soup, sauce and entrée, vegetable and fish; the vegetable and fish should be partially divided, although forming part of the general arrangement of the kitchen, and pastry and bread, which need not form any part of the general arrangement of the kitchen, but can be, and often are, separate from, but should be near the kitchen and service-rooms.

Ice and ice-making arrangements are often placed near and following on to the pastry and



GROUND PLAN

HOTEL GREAT CENTRAL, LONDON GROUND PLAN. (COLONEL F. W. ELDIS, ARCHITECT.)

confectionery from the fact that one of these particular set of cooks makes the ices; but as there is always a certain amount of wet from the melting ice, I think it better to place this beyond the general traffic to and from the kitchen and larders. The service-room should be as near as possible to the kitchen and larders, and fitted with lifts.

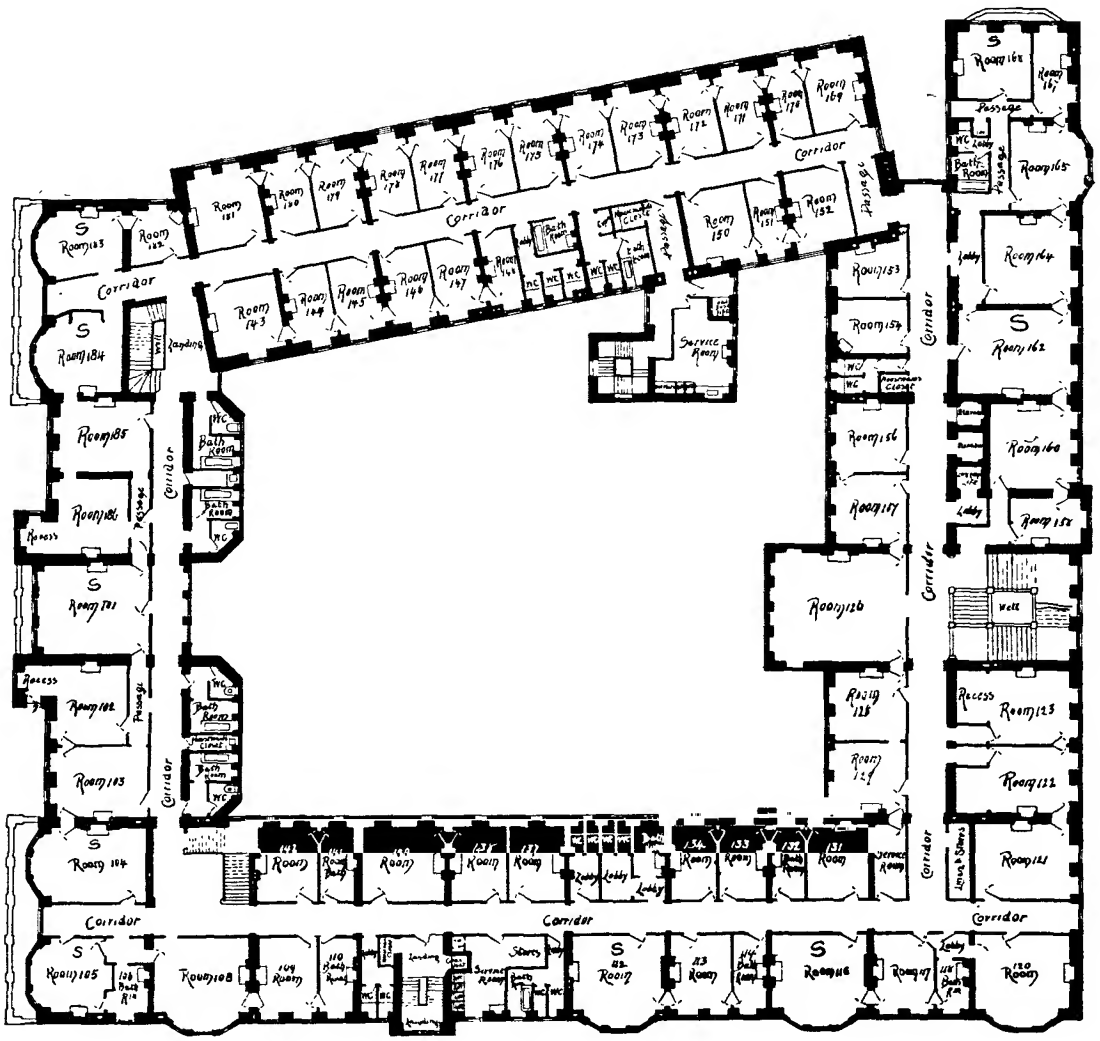
The plate-cleaning, knives, and general scullery should be close to the service-rooms and kitchen, because plate and crockery are required in the kitchen department as well as upstairs.

The pot-scouring and cleaning scullery should be near the kitchen, so that the copper and other utensils can be cleaned quickly and returned to the kitchen; and if this is the case, you can do with a less number of them of the different sizes.

Vegetable scullery and store should lead from the vegetable kitchen, having separate entrance for the vegetables to save going through the kitchen.

The fish larder and store has to be placed a little farther away than the vegetable, because of any warmth that might travel from the kitchen.

The chef's room should be as near the kitchen as possible, and at the same time close to his *hors-d'œuvre* and principal stores.



—FIRST FLOOR PLAN—

HOTEL GREAT CENTRAL, LONDON: FIRST-FLOOR PLAN. (COLONEL R. W. EDIS, ARCHITECT.)

There should be also arranged a place for kitchen coals; a chef's store for soap, soda, salt, utensils, and such like; a cook's room, dressing-room and lavatory, servants' hall, steward's room, waiters' dressing-room and lavatory, and, where women or kitchenmaids are employed, a women's dressing-room and lavatory; boots, drying-room, linen-room, linen-store, linen-room mending; luggage, bicycle, and motor garage on ground floor.

Wine and beer cellars, with platform lifts or slopes, generally surround the kitchen offices. I advise doors to shut off each corridor enclosing the kitchen department, larders, &c., to prevent articles being shifted or lifted.

The raw meat, game and poultry larders, should be provided with the ice refrigerating process or cool room. The cold and hot pastry room, with its general store, flour, &c., are usually arranged running opposite to and parallel with the kitchen.

The lifts from the service-room below should serve, on the ground floor if possible, into a waiters' pantry and service-room, and hatch for stillroom, so that the waiters can take from the kitchen, and pick up at the stillroom hatch, to supply the coffee-room and dining-room.

The service-room on the ground floor should be placed (if there is only one) so as to serve the coffee-room, dining-room, and restaurant. In large hotels there are sometimes two or three service-rooms, particularly where the carving is done in the service-room and not in the dining-room or banqueting rooms.

Service-rooms, waiters' pantries, or housemaids' rooms would be required on the various floors. The glass pantry should always be on the same floor as the dining-room, otherwise the breakage will be very heavy.

In conclusion I desire to thank publicly the many architects who have so kindly loaned me the plans and views of the various hotels shown to-night.

DISCUSSION OF THE FOREGOING PAPER.

Mr. Edwin T. Hall, *Vice-President*, in the Chair.

Mr. JOHN SLATER, B.A.Lond. [*F.*], who was called upon by the Chairman, said that the subject was so vast, and the matters pertaining to a large hotel so numerous and of such great importance, that it had been almost impossible to follow the Paper in many of the details described. The plans themselves, too, were so complicated that an hour's study at least would be required to enable one to criticise them with advantage. The views shown of the old inns were extremely interesting, and so were the allusions to the designations of some of the signs which survived. He might mention as another instance the "Goat and Compasses," a corruption, he believed, of "God encompasseth us"; and the "Bag o' Nails," a sign borne by one or two inns in the country, corrupted from "The Bacchanals." Mr. Hamp had mentioned that there should be, if possible, only one entrance and exit for the staff. That, however, was a counsel of perfection, because the London County Council required that in hotels, whether large or small, the means of exit from the basement and ground floors, wherever they might be, should be so arranged that the doors could be opened by a mere push from the outside. He himself was now engaged in the erection of an hotel, and he pointed out to the County Council officials that such a requisition made an hotel almost impossible to manage; because, if there were a certain number of exits which could be pushed open without any control, at any hour of the day or night, provision would be afforded for entrance into the hotel of extremely undesirable characters. The County Council had admitted the force of this representation, but they said that they were not concerned with the management or profits of an hotel; their only concern was the possibility of getting people out in case of fire. The matter was further complicated by the fact that the regulations of the Council appeared not to recognise that in a modern hotel the whole building was practically fireproof, and if that was the case, there was very little danger of fire. There was, of course, the risk of panic from other causes, and no hotel manager could afford to ignore such a risk; consequently, they had to provide not necessarily against danger from fire, but against panic from smoke; and that made it necessary to arrange separate exits from nearly all the floors downstairs, or he believed the Council would be satisfied if all the occupants of the hotel could be got on to the roof by one staircase and down by another. In London, however, where

land was extremely valuable, and where the area of the site was also limited, this created a very great difficulty. The arrangement of the kitchens on the ground floor was also, in most cases, a counsel of perfection, because there were very few cases where the area of the site was sufficient to allow of the kitchen and a service-room and the various rooms which must be connected with the kitchen being on the same floor as the coffee-room, restaurant, &c. They were therefore bound in most cases to have the kitchen in the basement; and he quite agreed with Mr. Hamp that such an arrangement was infinitely better than having the kitchen on the top floor. Lavatory accommodation in an hotel required very careful consideration. He himself was inclined to the opinion that it was desirable to have the lavatory and bathroom and w.c. together, shut off by a lobby, because if the w.c. were close to the bathroom the heated pipes in the bathroom made that portion of the building rather warmer than the corridors of the hotel; the consequence was that there would generally be a draught from the corridor into the bathroom, rather than the other way, which was a very great desideratum. He was quite sure they would all agree that a very hearty vote of thanks should be passed to Mr. Hamp for the trouble he had taken in preparing his Paper, and for the interesting collection of views and plans with which he had illustrated it.

Mr. E. A. GRUNING [*F.*] said that he himself from the earliest period he had been in business had studied hotel work, and had more or less successfully carried out buildings of that class; and he quite recognised the difficulties Mr. Hamp and his well-known partner had had to contend with in the work they had carried through with such success at the Savoy. The difficulties in hotel planning were very great. The architect was hampered by the nature of the site, by the nature of the requisitions, and by the nature of the trade carried on. He thought hardly sufficient stress had been laid on the most important man on the hotel staff, namely, the cook. After him came the wine butler; but the cook was *the* man, and no hotel without a first-rate cook would succeed, however well designed, however well planned, however well built. He might enlarge upon a great many points in connection with the arrangement and management of an hotel, but he would not do so at that late hour. They had all enjoyed Mr. Hamp's very able Paper, and he had the most cordial pleasure in seconding the vote of thanks.

Mr. WILLIAM WOODWARD [*F.*] asked leave to support the observations made by Mr. Slater and Mr. Gruning with regard to the Paper. They would all agree that the planning of an hotel required as much skill, thought, and knowledge as the planning of any building that could be erected in this or any other country. The enormous amount of detail one had to think of in making a success of an hotel must be apparent to all who had heard Mr. Hamp's Paper. Having been in the Savoy Hotel, and having stayed for a few days in that beautiful hotel at Algeciras, in his opinion there was no architect or firm of architects who knew more than Mr. Collcutt and Mr. Hamp how to design and equip an hotel. If he troubled the Meeting with a few observations, it was not with the idea of adding to what Mr. Hamp had said, but merely to emphasise a few points which had arisen during the erection of the Piccadilly Hotel, the most recent with which he had had to do. Mr. Hamp summed up the requirements of an hotel in one sentence, and the planner of an hotel who could conform to those requirements would do all that was necessary both for his client and for the public. Those requirements were abundance of light and air, comfort, good attendance, faultless *cuisine*, and perfect sanitation. But there was one feature in the planning of an hotel which they should all desire to attain if possible on the site, one that was well exemplified in Mr. Cutler's plan of the Hôtel Métropole, Folkestone, which Mr. Hamp had followed so far as possible in planning—viz., with regard to the whole upper floors, simplicity of planning. The corridor principle with a window at each end was about the simplest and best plan which could be adopted for an hotel. Those who had been abroad, and had come home perhaps rather late to their hotels, would know how delightful it was to find themselves in their right corridor and all they had to do was to find the number of their bedroom. That, he was sure, would commend itself to everybody. Another important point Mr. Hamp had touched upon—and that Mr. Gruning had secured particularly in De Keyser's Hotel—was economy of service. There were one or two hotels in London where the service had been so badly planned, necessitating so many attendants, waiters, and staff, that it was absolutely impossible, with the utmost care and the utmost attention, to secure financial success. Those of them who had studied in detail the planning of an hotel would know that one of the greatest points was to secure this economy of service, if financial success was to result. Mr. Hamp's reference to larders reminded him of the perfection to which the larder accommodation had been brought. He had gone over the service rooms of the Elysée Palace Hotel in Paris, and had been shown the larder, and particularly the live-fish larder—a beautiful apartment, glazed with white glazed bricks, where the live fish were swimming about in a tank. The guest could go down to the fish larder and point out the fish he wished to have. The *chef* would take it out of the water with his net, and in a quarter of an hour it would be served up at table ready for eating. That, he thought, was the perfection of fish larders. With regard to the army of servants Mr. Hamp referred to, there was one hotel in London where underneath the ground floor, scarcely ever seen by visitors, there was a staff of over 200 persons. Anyone who had had to do with the financial part of an hotel would know what it meant to keep such a staff—some of them very expensively

paid—beneath the ground floor. With regard to the ventilation and heating of a large hotel he must confess that that was a subject he did not feel competent to administer. He thought that might be very properly left, as it was in the case, at all events of the Piccadilly Hotel, in the hands of an expert who was thoroughly accustomed to it. Another important matter was the question of locks to bedroom doors—locks that would prevent the chambermaid or waiter from coming in at inopportune moments; locks that could only be opened with the master-key by the manager himself in case of suicide or illness; locks simple enough to be understood by guests coming home late. Another important point was the provision of perfectly sound-proof partitions. At the Piccadilly Hotel they had tried many partitions: two or three favoured one kind, and two or three favoured another; and at last they had arrived, he hoped, at a thoroughly sound-proof partition, which was only about 4½ to 5 inches thick, and which did secure immunity from the travel of conversation from one room to another. This was an important point, because where families occupied different suites of rooms, sometimes a member of the family would raise his voice so as to be heard distinctly in the other suite, and it was most desirable to have a sound-proof partition. This particular partition, which he would not name, secured that end. The double doors between rooms was another important point. Mr. Hamp went further, and not only provided double doors, but suggested a slab of asbestos being placed between the doors, so as to prevent the transmission of sound. Anyone would appreciate this point who had slept in a bedroom with a single communicating door, where there happened to be in the adjoining bedroom a gentleman whose somnolence was not absolutely silent, whose deep organ going through the night made sleep impossible to his neighbour—one envied him his sound sleep, while one regretted his not being sound-proof! As regards the lavatories, in the Piccadilly Hotel they could be all fitted with hot, cold, and waste pipes, so that the guest had not to wait in the morning for the chambermaid to bring hot water; he would find it always ready to his hand. In building an hotel in London it was absolutely necessary to have double windows to prevent noise penetrating the rooms. The difficulty of making those double windows with French casements was very great, to secure the cleaning and opening and shutting them as they should be, and so endeavour had been made at the Piccadilly Hotel to arrange transom lights to open simultaneously. He quite agreed with what had been said as to the importance of lobbies, which practically made the suites into distinct apartments.

Mr. ERNEST RUNTZ, referring to the development in hotel enterprise brought about by changes in locomotion since the old coaching days, said he hoped that the advent of the motor car would be useful in preserving to them some of the old hostelries and coaching yards, which would now serve the new purpose of receiving the motor cars in lieu of the stage coach of ancient times. These old inns, he hoped, would not be done away with as they had anticipated, but there would be a revival and success and prosperity for them in the future; for once in a way a modern innovation might prevent vandalism. The subject before them would occupy them with pleasure for many hours, so many were its ramifications, and so many its difficulties, arising not only with regard to planning, but to a large extent also in connection with the particular class of customer catered for. Mr. Woodward's suggestion that everybody should arrange for a window at the end of each corridor, and that everything should be light, he quite agreed with; but that was almost an impossibility in large cities. With regard to economy of service, that all depended upon the site and upon the nature of the hotel. There was no doubt whatever that in the Savoy Hotel Messrs. Collcutt and Hamp had had a most difficult problem to deal with; they had to make a silken purse, so to speak, out of a sow's ear, and in this they had admirably succeeded. With regard to the Ritz Hotel and the Waldorf, there the architects had a clean slate. Sometimes, however, a clean slate was one of the most difficult problems one could have to deal with; but he must say—and he could say it perfectly freely with regard to planning—that he had never seen anything better than the Waldorf or the Ritz. He did not know which to like best, except that perhaps there was a little waste in the Ritz in the case of those magnificent bathrooms in the centre; but the principle on which the planning was done was a most excellent one. Mr. Woodward had referred to sound-proof partitions. He (the speaker) had heard of an asbestos slab between double doors. It was wise for every architect to come in contact with the man who had to control and manage the hotel and make it a success. He remembered one manager saying, "Do not put asbestos between; put a spare mattress—it is better." With regard to the kitchen, he had had something to do with hotels and restaurants, and so far as was possible in the interest of his clients he tried to keep the arrangement of the kitchen (barring the principle as to quick service) till the very last moment; he had always found that if one put up the kitchen and service-rooms before the manager was appointed, the first thing he would do was to have the whole thing altered. At the Gaiety Restaurant, with which he had been concerned, they had had flats in the top—which was rather unique in view of its arrangement—they had banqueting halls of various sizes and characters, and they had a general restaurant. That wanted special dealing with in connection with the service, and they arranged to have there three services. They had first of all the kitchen in the basement, then a kitchen on the top floor. In the top they worked for the flats and

special banqueting halls, and at the bottom they worked the restaurant and general hotel. They found this arrangement worked admirably—there had been no hitch from start to finish; but he did not think it was possible to fix on any absolute plan with regard to the kitchen and services until the class of business to be dealt with was actually known. There were so many varieties of hotels and restaurants that it must be left to those who had to govern the whole concern to make it a commercial success to guide to a certain extent and be guided by the architect.

THE CHAIRMAN, in putting the vote of thanks, said that they had had one of the most interesting evenings he remembered at the Institute for a long time, because Mr. Hamp had brought to their notice that which was certainly one of the most up-to-date problems in big cities, namely, the building of large hotels, which were a feature of the last twenty-five years. He remembered that when the Langham was built, everybody said it was madness to build such a big hotel; it could not possibly last. That, however, was a perfect baby compared with some of their later hotels. That showed the development and the change in social life and the social condition of the country. Many people who used to have town houses now lived in hotels; and, though the prices were very high, they were stated to be much cheaper than private houses would be. It rather staggered one to know the prices paid in some of these places: four or five guineas a night for a bedroom, bathroom, and a little sitting-room appeared to be an ordinary charge. Mr. Hamp had drawn attention to so much detail that his Paper would become a text-book on the subject, and would be referred to by many who were studying hotel construction. It was one of the features of the Institute that the men who did the work gave away their knowledge for those who were to come behind and cut them out. There were one or two points that had not been touched upon that he would just say a word about. One was the question of electrical plant and heating. He quite endorsed what Mr. Hamp had said with regard to the economy of having an electrical plant in a big institution. It would be found that the exhaust steam from the engines which drove the electrical plant would do the heating of a big institution for nothing—that meant a saving of perhaps £300 or £400 a year when they were dealing with a large hotel like the Savoy or the Carlton, and it might mean £1,000 a year. Another matter was the question of fire alarms in an hotel. They were a very essential feature, because one of the first things that made an hotel a success, when it had a fine cuisine and that kind of thing to recommend it, was the feeling the guests possessed of security from danger; and hotel managers were very alive to that point. There were various appliances for avoiding panic in the event of fire. Mr. Hamp dealt with the details of some of these; and in connection with fire alarms it was a very usual practice now to have a lamp, on which the direction of the exit was marked, on every floor; so that if a panic occurred the guest coming out of his bedroom would know instantly where to find the staircase. Some year or two ago he had had to make very careful surveys and to report on some of the biggest hotels in London—amongst them the Carlton, the Russell, and the Great Central—and he had been very much struck with the great care that had been paid generally to this matter. With regard to cleaning, it was astonishing what developments had taken place in "vacuum cleaning." The latest was to have a vacuum cleaning apparatus attached to the engines in the basements, with valves fitted upon the skirtings of every room in the place, so that the only thing the man had to do was to take the cap off and put a tube on, and all the dust of the rooms could be exhausted through the tubes right away to the basement and taken away. With regard to the position of the kitchens, there again it was important to notice the great difference in planning. Every building must be planned to suit its particular site and to suit the particular style of hotel. In the Hotel Russell there was a magnificent kitchen which was lighted entirely by windows at the side. In the Carlton Hotel the kitchen was right in the centre of the building underneath the big dining-rooms and the Palm Garden, as he believed it was called. It was really a remarkable sight to go down there and see the vast staff working in absolutely artificial light, and yet in a place that was thoroughly well ventilated; and the business was done in the most orderly and marvellous way. A great feature about the security he had referred to was the egress from the staircases. In the St. Ermine's Hotel, designed by himself some twenty years ago, there were six main staircases, and every one of them went up to the roof, the roof being fireproof. There was a means of escape by every staircase on to the roof, and one could come down any of the others. In a similar way there was an egress on the ground floor. That was a subject which required the very greatest care and attention; it was not always attended to with such care as he thought was necessary. He remembered one hotel where the fire-escape staircase ended in a pit in the basement, where there was no possibility of anyone getting out.

MR. HAMP, in responding to the vote of thanks, said the subject was much too large to be dealt with in so short a time, and he had been able to touch only on the fringe of it. He should have liked to explain more in detail the various plans shown upon the screen, but that alone would have taken up the whole evening. Many of them, however, would be published in the JOURNAL, where they would have a better opportunity of studying them. Mr. Runtz, who had so kindly come among them that evening, had very ably touched upon the subject, and he would like again to thank him for his kindness in lending the slides, and for other assistance he had received from him.

9, Conduit Street, London, W., 13*th April* 1907.

CHRONICLE.

The President.

Mr. Edwin T. Hall, *Vice-President*, who presided at the General Meeting of the 8th inst., in calling upon Mr. Stanley Hamp for his Paper on "Hotel Planning" reminded members of Mr. Hamp's association in partnership with their President. Mr. Collcutt, he said, had been most anxious to be present that evening. He had, however, scarcely recovered from his recent severe illness when business affairs in Spain claimed his attention, and he had been obliged a day or two previously to set out for that country.

The Appointment of District Surveyors.

Mr. Frederick Wallen [*F.*], President of the District Surveyors' Association, has addressed the following letter, under date 20th March, to the Chairman and Members of the London County Council:—

My Lords and Gentlemen,—I am desired by the District Surveyors' Association to address you on behalf of its members upon the subject of the appointment of District Surveyors, a subject important alike to them and to the public.

The nature and importance of the duties and powers the District Surveyor is called upon to exercise make it essential that the office shall be held by gentlemen of high position and attainments. The interests of the public are clearly best served by being committed to the care of architects skilled professionally and technically in the intricacies of building operations, and acquainted with all the many new methods and improvements. It is a great advantage to the public that the District Surveyor should be a practising architect rather than a mere Inspector, who necessarily would not have the same practical experience of the difficulties arising from time to time in actual practice. An architect is more conversant with these difficulties, and more competent to solve them and to exercise the discretion thrust upon the District Surveyor by the peculiar nature of the technical law that he is called upon to administer; he is frequently in a position to confer great service upon the building public by his experience, advice and opinion in matters not strictly within his duties under the Acts. This is especially so in the case of the erection of public buildings and the execution of works required by the Act of 1905. It is important, therefore, that the District Surveyor be one whose rank in his profession entitles his opinion to respect and commands the confidence of all with whom his duties bring him in contact.

Such, evidently, was the dominant characteristic of all the long series of statutes extending down to and including the Building Act of 1894, in all of which it has been specially provided that the administration of the law relating to buildings shall be entrusted to specially qualified professional architects. That it was intended that he should remain an architect in actual practice is clear from Section 144 of the Act of 1894, which re-enacts the provisions of the former Acts as follows: "If any building or structure be executed, or any work done to, in or upon any building or structure by or under the superintendence of any District Surveyor acting professionally or on his own private account, that surveyor shall not survey such building or structure for the purpose of this Act, or act as District Surveyor in respect thereof, or in any matter connected therewith; but it shall be his duty to give notice to the Council, who shall then appoint some other District Surveyor to act in respect of the matter." This was the accepted position until 1888, and all the District Surveyors appointed until that date were and remained architects in practice. When, however, the London County Council was constituted, and the appointment of new District Surveyors was transferred to that body, the method of appointment was considered by them, the particular object in view being, as expressed in a letter to this Association from the Clerk to the Council, dated 22nd October 1889, "the elevation of the office of District Surveyor." All District Surveyors subsequently appointed have been required to surrender their practice. It was the opinion of all professional bodies consulted at the time that such alteration would not have the effect desired, but, on the other hand, would be detrimental to the office. It is submitted by this Association that the alteration has not satisfactorily stood the test of time, but is now shown by the light of experience not to have been a success.

Formerly many men of the highest eminence in the architectural profession, including no fewer than five who subsequently became Presidents of the Royal Institute of British Architects, presented themselves as candidates for the office; but men of such standing are not willing to exchange a successful or promising practice for a district surveyorship under existing conditions.

During the last three years of the existence of the Metropolitan Board of Works—viz., from 28th February 1885 to 3rd March 1888—seventeen new District Surveyors were elected. At these elections as many as thirty-eight candidates have presented themselves, the average being thirty-three; but upon the institution of the restriction on private practice in 1890, the number of candidates fell to little more than half that number: many of the best qualified men would not subscribe to the conditions.

The same falling-off is apparent in the number of candidates for examination for the Certificate of Competency. During the years 1856 to 1890 the number of certificates granted averaged 6·4 per annum; but since 1890, the year when the present conditions of appointment were instituted, the average has only been 3·3 per annum. In the years 1894 and 1897 no certificate was granted.

There are now vacancies in fourteen districts (the accumulation of the last three years) which are now under the care of temporary substitutes, the majority of whom are practising architects. This Association would therefore respectfully suggest to the Council that the restrictions now attached to the appointment of District Surveyors may be reconsidered, as those restrictions have, in their opinion, proved detrimental to the office and to the public, and tend to make the District Surveyors lose touch with the difficulties of actual practice.

The provisions made by the Act of 1894 are amply sufficient to secure the due and proper execution by the Dis-

trict Surveyor of his duties, and the avoidance of any abuse. In addition to Section 144 quoted above, which prevents any possibility of a District Surveyor acting in the dual capacity of architect and district surveyor upon the same work, Section 143 provides that "where it appears to the Council that, on account of the pressure of business in any district, or on any other account, the surveyor of that district cannot discharge his duties promptly and efficiently, the Council may direct any other District Surveyor to assist the surveyor of that district in the performance of his duties, or appoint some other person to give such assistance; and the Assistant Surveyor shall be entitled to receive all fees payable in respect of the services performed by him."

This undoubtedly requires the District Surveyor to personally discharge the duties of his office, and confers full power on the Council to deal with any contingency that could arise, so that the public are fully protected.

This Association therefore respectfully submits that the office of District Surveyor has not been "elevated," but has suffered by the change, and that it is in the interest of the public that the Council should revert to the previous system, and that the restriction now placed upon the exercise of their profession by District Surveyors, other than those imposed by the statutes, should be removed. In this event it is believed that the Royal Institute of British Architects would be willing to at once hold an additional statutory examination, when there is every probability that a number of architects of attainment and experience who have hitherto been hindered by the restrictions would present themselves for qualification.—I have the honour to be, my Lords and Gentlemen, yours faithfullly,

FREDERICK WALLEN,
President District Surveyors' Association.

School Hygiene.

The Second International Congress on School Hygiene is to be held in London, under the patronage of His Majesty the King, from the 5th to the 10th August next. The President is Sir Lauder Brunton; Dr. James Kerr and E. White Wallis, Hon. Secretaries. Section XI.—"The School Building and its Equipment"—will be presided over by the President of the Institute, Mr. T. E. Collcutt. Mr. J. Osborne Smith [*F.*] is one of the Hon. Secretaries of this section. Each set subject arranged for discussion will be opened by three selected speakers in English, French, and German. A discussion on the Lighting and Ventilating of Class-rooms will be opened by Sir Aston Webb, R.A. The office of the Congress is at the Royal Sanitary Institute, Margaret Street, W.

Public Library Planning.

To the Editor JOURNAL R.I.B.A.—

DEAR SIR,—In the Paper of great interest on Libraries (JOURNAL, 23rd March), I observed that in the discussion which followed Messrs. Godfrey Page and J. Osborne Smith advocated that wide gangways between book-stacks were unnecessary. The former cited the Chelsea Library, on the indicator system (fiction only), where the stacks are only 2 feet 4 inches apart in the clear, and stated that that was enough.

I have it on the authority of the assistant librarian, who works the lending room, that it is not satisfactory, for on stooping to obtain books from the lower shelves the position taken by the body disarranges the books immediately behind; extra labour is therefore involved. When there is a rush of borrowers, their services are hampered by not having sufficient room for two persons to pass.

The minimum space apart in the clear, I consider, is 2 feet 9 inches; the most convenient spacing is 3 feet apart.—Yours faithfully,

J. MYRTLE SMITH [*A.*].

Inscriptions on Old Inn Windows.

Considerations of space and the desire to concentrate attention on the essentials of his subject induced Mr. Stanley Hamp to score out a good deal of matter which found place in the original draft of his Paper on Hotel Planning read at the Institute last Monday. Among the rejected passages were specimens of inscriptions cut by guests of a long-departed generation on the windows of some old-time inns still remaining to us. Hotel guests had fewer distractions in those days perhaps, and to perpetuate their names by scratching them more or less elegantly on the windows of the inn seemed a favourite device for beguiling the tedium of a long wait perhaps for a belated coach on a dismal day.

A window in a Surrey hostelry, says Mr. Hamp, is completely disfigured by numberless autographs of nonentities, and in the middle of the centre pane, conspicuous among the maze of signatures, is the following epigram:—

"Should you ever chance to see
A man's name writ on glass
Be sure he owns a diamond
And his parents own an ass."

The following, written on the coffee-room window of a Thames-side inn, recalls the pungent wit familiar to us in the lampoons of the coffee-house rhymester of a century or more ago:—

"I told the waiter James
To fetch me for my picken
Some Beaune of '87
And a tender little chicken.
He took my order in a trice.
But as I hope for Heaven
The wine was bottled in the spring,
The bird was 87!"

New County Hall, London.

The following supplemental notes have been issued for addition to the Conditions [JOURNAL, 9th February, p. 225] issued to competitors for designs for the New County Hall, London:—

"(*a*) Any further information required by competitors must be applied for to the assessors, and addressed to the County Hall, Spring Gardens, London, S.W., in the form of separate questions on or before Wednesday, the first day of May, 1907, after which date no further questions can be considered.

(*b*) Those questions which it is necessary to answer will

be replied to, and the information supplied to all competitors; such replies will then form part of the conditions.

(c) For the immediate information of competitors the scale for the drawings for the preliminary competition has been definitely decided by the Council to be 16 ft. to an inch, and in view of the possibility of most of the competitors having considerably advanced their design no alteration in the scale can now be made."

A COURT OF BUILDING FOR LONDON.

By JOHN W. SIMPSON [*F.*].

[From *The Times*, 29th March 1907.]

THE path of the man of London on his way to build is, like that of good Christian, set full of snares, traps, gins, and nets. While he seeks in the dark Building Act to shun the ditch full of district surveyors on the one hand, he is ready to tip over on the other into the mire where swarm the inspecting nuisances hatched by borough by-laws. Thus he goes on; and what wonder that we hear him "sigh bitterly."

And now he is met this year by Apollyon himself, who has "strodled quite over the whole breadth of the way" in the shape of the London Building Acts (Amendment) Act of 1905, with its powers not only as to new but as to existing buildings.

All who have had to do with building in London, whether as employers or executants, know that the London Building Acts form a portly volume, complicate with by-laws, schedules, forms, and technical definitions, the interpretation whereof leaves layman and expert alike bewildered. A prominent district surveyor recently stated in public that, having been invited by a member of the County Council to deliver a lecture on "the real building law of London," with a view to making the matter perfectly clear, he had replied that he "did not know anyone who had the ability to do that," and declined to attempt it. Remark, too, that his hearers expressed no surprise at this astounding declaration from an able gentleman whose business it is to administer the very law in question.

To appreciate their attitude we need only consider this appalling list of Acts regulating building in London. I am not sure if it is complete:—

The London Building Act, 1894.

The London Building Act, 1894 (Amendment), Act, 1898.

The Metropolis Management Act, 1855.

The Metropolis Local Management Acts Amendment Act, 1862.

The Metropolis Management and Building Acts Amendment Act, 1878.

The London Council (General Powers) Act, 1890.

The Metropolis Management Amendment Act, 1893.

The Public Health (London) Act, 1891.

The Factory and Workshop Act, 1891.

Factory and Workshop Act, 1895.

London Building Acts (Amendment) Act, 1905.

The City of London, the metropolitan boroughs, the Tribunal of Appeal, and the County Council have added to these countless by-laws, schedules, and regulations on every conceivable subject—from the laying-out of streets to lamps and clocks and the exact pattern of caulking for an iron pipe—to the utter darkening of the understanding.

And the very grotesque itself is reached when the citizen who ventures to differ from an "authority" in the reading of this tangled bundle of clauses receives a "summons" to appear before a police magistrate, where, in the company of thieves, harlots, and the scum of the criminal classes, he must balance his opinion against that of his "prosecutor," and be "convicted" if unsuccessful by a Judge who knows even less of the discussion than the parties themselves.

Difficult as it is for the most honest intention to derive the meaning of the Building Acts where they purport to be precise, there remain many points upon which their compilers have despaired of laying down hard-and-fast rules, and have left them to be decided as occasion arises by "the discretion of the Council." Heights of buildings, projections, open spaces about buildings, lines of frontage, widths of streets, and such-like important matters fall within this category. Let us consider what the "discretion" really means.

The Council at each weekly meeting deals with some thirty or more "applications" made under these discretionary clauses of the 1894 Act—representing thousands of pounds in value to the applicants, and involving a nice equity of judgment in regard to individual and public interests—from all parts of the vast county under their control. A glance at the weekly agenda paper renders any question as to what consideration these applications can receive from the full Council unnecessary; they are, of course, agreed to or refused on the report of the "Building Act Committee," and we cannot, perhaps, expect more.

I am not here concerned to criticise the provisions of the Building Acts, which are, I think, on the whole beneficial; any attack upon the County Council is still less within my intention. But it does not make for good government that authority should be discredited, and the proceedings of the Building Act Committee have done more to render the Council unpopular with sober citizens than all the current loose talk about Thames steamers and Embankment trams. It is the "Star Chamber" of to-day. Sitting *in camera* for a few hours a week, hopelessly choked with work, it decides the fate of property which its members have never even seen; no applicant is allowed a hearing to support his case. Its decisions are made on the evidence of officials alone. I would even hazard a guess that the agenda paper comes before it ready marked with refusals and consents. Naturally the doings

of the committee are denounced as arbitrary and capricious, for none can depend upon obtaining consent to his request, however obviously reasonable. That the members honestly do their best I do not doubt; but if all those ratepayers who have suffered by the injustice and loss inflicted by this committee were to express their grievances in writing, I suppose *The Times* itself should not contain the correspondence.

I bear willing testimony to the courtesy and ability of the officials themselves; but that admirable Atlas, the superintending architect, were he multiplied by 20, could not, with his other enormous duties and responsibilities, acquaint himself with the merits of applications from all parts of London under the Building Acts. He in his turn leaves them to his subordinates. And it is fair to suppose that when Parliament entrusted decisions—under an Act of far-reaching consequence to the wealth and well-being of the community—to the discretion of the London County Council, it did not intend such a discretion to be exercised by the direction of officials, however capable. The result of the present system is that rather than face the delay, annoyance, and uncertainty of an application to the County Council, building owners often prefer to abandon work which entails it, as any architect will testify.

The Act of 1905, before referred to, has now brought matters to the climax of impossibility, for the Council is therein directed to examine in detail the drawings prepared for every new building of any importance, and approve or disapprove the methods proposed to meet the provisions of the Act. All who know the skill required to master a set of technical drawings will realise the helpless perplexity of the unfortunate amateurs who have undertaken this task, to say nothing of the even greater one of dealing with thousands of existing buildings.

Here is a state of things clearly intolerable, and a remedy is of instant importance.

Such a remedy is, I venture to submit, only to be found in the establishment of a properly constituted Court of Building for London somewhat on the lines of the Dean of Guild Courts of Scotland. The president of the Court must be a Judge, equal both in standing and salary to the Judges of the High Court, and there are among our practising barristers several whose knowledge of building matters and ability to "read" technical drawings especially fit them for the appointment. The Registrar, also, whose office it would be to deal with minor and undisputed cases, should, I think, be a trained lawyer.

With the Judge should sit, either singly or together, at the application of either party to a suit, four advisory assessors—an architect, an engineer, a surveyor, and a builder. These assessors would be men of eminence in their calling, selected by the councils of their respective societies. Their fees should be but small—the honour of the position being great—and should form part of the costs of the case. The assessors would, of course, be exempted from jury service. An officer of the County Council and an officer of the borough directly concerned with the case should be privileged to attend and offer evidence as *amici curiæ*.

The outline of procedure would be somewhat as follows:—A person proposing to build would deposit his plans with the Court, all parties affected by the proposal receiving notice to inspect the plans and attend the hearing of the case either personally or by their representatives. All objections—whether on the ground of obstruction to light and air, construction, frontage lines, projections, exits, possible nuisance, or otherwise—would be then heard and decided, the plans being allowed or ordered to be modified as the Court might direct. The present system by which neighbours apply for injunctions during the progress of a building—too often with a view to mere blackmail—with its grievous loss and delay to the building owner, would disappear; the plans once approved, the building could proceed to completion without interference. Vexatious objections would practically cease, as the Court would condemn the objector in costs.

The supervision of buildings during execution is already provided for by the body of district surveyors. These gentlemen would become officers of the High Court, responsible to the Court of Building alone.

One word as to the cost of the scheme. I am convinced that it would be practically self-supporting; it would be at least far less costly than the present incoherent control. The value to building owners of a clearance of their path from the outset would be incalculable, and they would willingly pay substantial fees to the Court in order to ensure it, fees which might be calculated as a percentage of the value of their enterprise.

This is, however, not the place to touch on matters of detail; I am only concerned to show the intolerable conditions which exist and become daily more grievous, and to indicate the lines on which I believe they may be amended.

ARCHITECTURAL EDUCATION.

University College, Gower Street, W.C.:
9th April 1907.

To the Editor JOURNAL R.I.B.A.—

DEAR SIR,—The publication of the Report of the Education Committee of the American Institute of Architects in the JOURNAL of 23rd March makes it unnecessary for me to quote from it to any extent, much though I feel tempted to do so. I regard the report as by far the most interesting and convincing statement that has yet appeared on the important question of

Architectural Education. All through it is emphasised the necessity of a sound general education for students, as a foundation on which to build their technical training. The conclusion arrived at is summarised towards the end in the paragraph beginning "Schools of Architecture are established for the purpose, first, of ensuring the pupil in the possession of general cultivation; second, to give him a thorough technical equipment in the history and literature of architecture, and in the laws that have been established by precedent; third, to make him familiar with present conditions and practice." A succeeding rider states that in the opinion of the Committee "the idea of general culture as the indispensable basis fails of its due recognition." If this latter be true of American schools, how much truer is it of English ones?

I have always maintained that a thorough and complete technical training—embracing the subjects ancillary to architecture which are daily growing in importance—is impossible so long as the knowledge possessed by the majority of boys on leaving school is no greater than it is at present. One difficulty in dealing with this is that students seldom realise it is to their advantage to continue their general studies, and another, arising out of the first, is how to frame a scheme which shall offer sufficient inducement to them to do so, to compensate them for the time devoted to such work. I tried gentle persuasion in this direction when I started the two years' preliminary course for architectural students in University College, Liverpool, in 1894, but failed. I advised my students to spend at least three hours a week on some general subject, such as mathematics, mechanics, French, &c. It was difficult, however, to make reaching a certain standard compulsory in any of these, and as I found slackness in consequence to result, I dropped the idea. But a few years later an opportunity presented itself, and I was instrumental in carrying a Bachelor of Arts degree scheme for architectural students through the Board of Studies of the Victoria University, which then included the Colleges of Manchester, Liverpool, and Leeds. My sole reason for introducing this scheme was to oblige students entering for it to continue their general studies up to the intermediate examination standard of the University, and so provide them with that foundation which the American Institute's report states to be essential. For the same reason I rejoiced when the Senate of London University last year passed a scheme on similar lines, because I am convinced that this is the best solution of the difficulty at present hampering architectural education.

The London degree course, like that at Manchester, provides that students shall pass the Matriculation and Intermediate examinations of the University in general subjects: the list of these being a particularly wide and comprehensive one, embracing both Arts and Science, so that students can choose much what they please. The former examination has to be passed before commencing the course, the latter at the end of the first year. All educationists I have spoken to are agreed that the Intermediate standard of general education is all that is necessary for students, except for those who intend to devote themselves to special work in the Arts or Sciences, or to teaching.

The points in the London University scheme which deserve emphasis are—(1) The recognition by the University of the importance of the principle advocated by the American Institute of Architects, and the provision it has made to meet it. (2) That in their first year, students commence the elementary part of their technical training, and at the same time continue their general studies. (3) That general studies are dropped after the first year, *i.e.*, after the Intermediate examination is passed. (4) That students' second and third years are devoted entirely to architectural problems, and to classes in Engineering, Hygiene, &c., in the College Laboratories, which without the study necessary for the Intermediate examination they could not, in most cases, understand.

In conclusion, I venture to express the hope that all architects who wish to raise the standard for students entering the profession will give the Degree scheme of the London University their most careful consideration. I feel certain that the Board of Studies of the University would welcome suggestions, and would give most careful consideration to any by which the course of study at present arranged could be improved, so as to make it as nearly perfect as possible, from both a technical and a liberal standpoint.

I apologise for the length of this letter, but the importance of the subject may, I hope, be accepted as my excuse.—Yours faithfully,

F. M. SIMPSON.

MINUTES. XI.

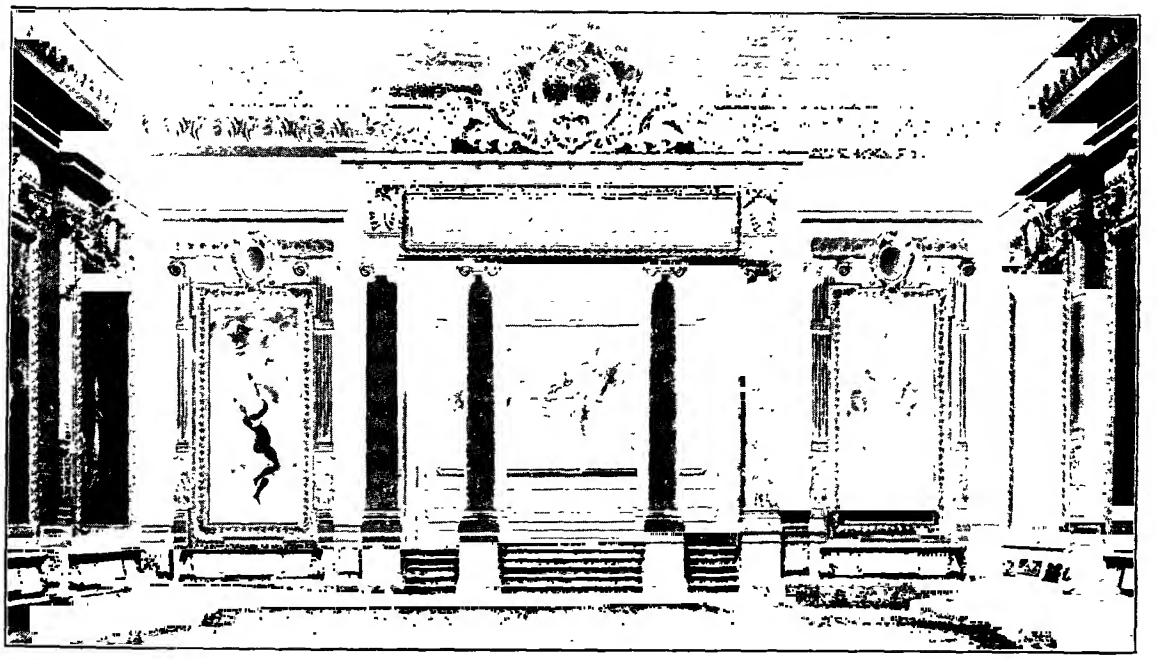
At the Eleventh General Meeting (Ordinary) of the Session 1906-07, held Monday, 8th April 1907, at 8 p.m.—Present: Mr. Edwin T. Hall, *Vice-President*, in the Chair; 27 Fellows (including 9 members of the Council), 31 Associates (including 1 member of the Council), and visitors, the Minutes of the Meeting held 18th March [p. 359] were taken as read and signed as correct.

The decease was announced of George William Hamilton Gordon, Director of Public Works, Orange River Colony, elected *Associate* 1886, and *Fellow* 1906.

The following members attending for the first time since their election were formally admitted by the Chairman—viz., William John Fennell, *Fellow* (Belfast); George Thrale Jell, *Associate*.

A Paper on HOTEL PLANNING was read and illustrated by Mr. Stanley Hamp, A.R.I.B.A., and having been discussed, a vote of thanks was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.



Salle des Rubens, Louvre. Decoration from the designs by M. Georges Redon, architect, 1903.

GALLERY BUILDING.

By A. W. Weissman, Architect, Amsterdam.

Read before the Royal Institute of British Architects, Monday, 22nd April 1907.

When an architect is asked to plan a museum, he has to remember constantly how essential it is to its success that the works of art for which the building is intended will be perfectly safe in it, and can be shown to their best advantage. If the designer of the building has been dominated by the wish that the exterior should make a good first impression, the museum will be a failure, as is the case with many galleries on the Continent. It is usual for the selection of a site to be decided by the authorities alone. But the actual position of the building and the grounds surrounding it need the most careful consideration on the part of the architect: for the museum should be so placed that on all sides a distance of at least 140 feet should separate it from the houses in the vicinity. When a site like this is chosen, a fire breaking out in one of these houses can do no harm to the building. And as our museum will need many rooms that are lighted by windows in the walls, this situation will enable us to procure the light that is best for pictures. I planned a large square in front when it fell to my lot to erect the City Museum at Amsterdam. In 1898 this square was still in existence, and the masterpieces of Rembrandt, then collected in my building, had the best light possible in the front rooms. A year afterwards, however, the City Council decided to sell the square for building purposes, a huge house was erected there, and now the light is spoiled for ever.

The number and the size of the gallery-rooms should be determined by the character and the importance of the collections to be exhibited. The rooms can be lighted by windows or by openings in the ceilings. Modern painters prefer the gallery-rooms lighted by the ceiling; yet most of them use side-light when at work. A museum for modern art, being lighted from above, needs only one story. This arrangement is found at the Musée du Luxembourg, Paris, and at the Tate Gallery. Buildings like these being rather low, the exterior is not very satis-

factory. On the Continent, as a rule, the gallery-buildings have two stories or even more. The pictures are in the upper rooms with skylights; the ground floor contains antiquities, sculpture, and so forth.

When more than two stories exist, the upper two surround the centre rooms with skylight. This arrangement, however, is not to be recommended, as these latter rooms have to be made too high for lighting the paintings well. The staircase leading to the upper story affords a splendid opportunity for decorative treatment, which would be out of place in the rooms, as the works of art themselves form a decoration that cannot be surpassed and is better left to speak for itself. The staircase should have a central position. But care has to be taken that it does not interfere with the communication between the rooms. If relatively dark rooms are placed between the gallery and the staircase, this latter can be lavishly lighted. It is necessary that visitors should be able to find their way with ease and not have to pass a second time through a room. This is not always kept in mind. When visiting the Kaiser Friedrich Museum at Berlin I could not find the way out, and was obliged to ask an attendant.

The rooms of a museum for temporary exhibitions should be planned so that smaller or larger groups of them can be separated. It is difficult, of course, to obtain a satisfactory solution, as this may get the architect into serious trouble with his design. For all that, it should not be put aside, being one of those things which are rendered imperative and obligatory by the needs of a museum where temporary exhibitions will be held. The museum I erected at Amsterdam was planned on this principle. The design proved satisfactory, but I had to give up all "academic" ideas.

Rooms for the Council, the Director, and the attendants are necessary, but dwellings are not desirable in a museum building. Cooking and sleeping in the building serve no useful purpose. The visitors do not like the kitchen-smells, and in case of an accident by fire at night a person sleeping in a basement would be but a poor safeguard.

A far better arrangement is to appoint separate attendants for the night; they begin their service when the building is closed to the public and leave when it is opened the next day. If these night-attendants are instructed to go round the building, inspecting all rooms at fixed hours, perfect security is obtained, as these inspections can be controlled by watches made for that purpose. Umbrellas and sticks that visitors bring with them should be left at the entrance. It is well to remember here that there should be one entrance only. For when you happen to be going out a different way from that by which you entered, it is vexing to have to be shown elsewhere in order to get your things. Those who have visited the Ryksmuseum at Amsterdam know by experience how objectionable two entrances are. In this case, however, the architect is not to be blamed, as the authorities obliged him to make a public passage, cutting the ground floor of the building in two parts.

Spacious store-rooms must be provided, especially when the building is intended for temporary exhibitions. Here the boxes in which the works of art are packed find their place. These storerooms should have separate entrances; it is desirable to make provision for the pictures being brought by lifts to the gallery-rooms.

Well-lighted rooms for restoring and copying ought not to be omitted. Copyists should not be allowed to do their work in presence of the public. As a rule they are but poor artists, and in all cases hindrances to the visitors. It is annoying when a valuable picture cannot be seen well because the copyists have taken the best places.

It is of the utmost importance that the works of art in a gallery should not suffer from dust, humidity, or sudden changes of temperature. So the exterior walls are best made double, as the air, thus enclosed, affords a perfect isolation. A heating system must be provided for warming the rooms in the winter, and all the year round the ventilation should supply pure, fresh air,

constantly renewed. The subject of heating and ventilating a museum is one of such paramount importance that it should engage the earnest attention of the architect. The best results are obtained by a low-pressure hot-water apparatus. This can be designed to meet all requirements both as regards the temperature of the rooms and the ventilation thereof. Steam heating and hot-air heating are not suitable, as the dust, which cannot be avoided when using them, causes serious damage to pictures and other works of art. Radiators must always be kept as far as possible from the walls where the pictures are hung. It is best to fix them in the centre of the rooms, or under the windows if these are provided. A radiator cannot be an ornament; therefore it is better hidden by seats placed around or in front of it.

The ventilating of gallery-rooms is easy when they are lighted by windows. A question of greater moment is the means by which the upper air-space of rooms with skylight may be kept at all times in motion, so that over-heating on summer days may be prevented. To obtain this, the air between the ceiling and the roof must not be shut up, and openings should exist, so that the air of the room can rise to the glass roof, to be exhausted there by ventilators. I found Boyle's air-pump ventilators most useful. Gratings can be placed in the walls near the floor, where fresh air is obtainable. These inlets, as well as the ventilators, must be so constructed that the quantity of air passing them can be regulated, as in the winter too much ventilation is not desirable.

We pass now to the lighting of the rooms, which is of the utmost importance. It must always be kept in mind that an architect, if he desires to succeed when building a museum, has to make sacrifices in the external treatment in order that the rooms may have the best light possible. The rooms can be lighted from the ceiling or by a window in a wall. A combination of these two systems has sometimes been tried, but with no good results. Rooms lighted by the ceiling are suitable for the large paintings of the Italian and Flemish schools. For the Dutch pictures side-light is preferred. Care must be taken that the walls and not the floor are lighted. A picture should not reflect the light, as the glittering of the surface is very annoying. When the pictures are covered with glass it is impossible to prevent reflection. All dark pictures when so covered are mirrors, which the lady visitors like, but the lovers of art despise.

Rules have been given for the lighting of gallery-rooms. Magnus advises making them 36 feet wide, 26 feet high, and with an opening in the ceiling 12 feet wide [see diagram, p. 425]. He does not fix the length of the room. These rules were applied by von Dehn Rothfelser when building the famous gallery at Cassel; but as this architect, to obtain a better external effect, made the rooms 45 feet high, Magnus cannot be held responsible for them. The rules of Magnus were famous half a century ago; yet the results obtained by their application were not entirely satisfactory. The reason was that Magnus gave no rules for the length of the rooms. In a room of 36 feet square the light-space was one-ninth of the floor-space, but in a room of 72 feet long the light-surface was almost one-fourth. As the best light falls on the floor, Magnus suggested the hanging of a velarium under the ceiling to prevent this; but the comparatively low rooms were spoiled altogether by this appliance.

Tiede advises making a room 30 feet wide, and gives the following construction for the height of the ceiling and the size of the light [see diagram, p. 425]:—A horizontal line is drawn at a distance of 11 feet from the floor, and, from its middle as a centre, a circle through a point in the wall-surface 18 feet from the floor. From this point, and from another in the wall-surface 3 feet from the floor, lines under 45 degrees are then drawn; the intersection of these lines with the circle gives the height of the room and the width of the opening in the ceiling. Rooms constructed on this principle—for instance, those of Schinkel's Museum at Berlin—are better lighted than Magnus's rooms, but still the best light falls on the floor.

When visiting the principal gallery-buildings of Europe I could not find a room which was entirely satisfactory, so, when entrusted with the museum at Amsterdam, I had to try for myself. I found that a room is best if from 25 feet to 36 feet wide. The walls ought not to exceed 15 feet in height, as it is impossible to see a picture well if hung higher; and as a space of 3 feet at least must be left under the pictures, I could draw lines under 45 degrees in the same way as Tiede [see diagram, p. 425]. These lines gave the limitation of the glass-spaces in the roof. The opening in the ceiling could not be less than 15 feet, but I thought it would be well to make it larger, in proportion to the floor-surface of the room. The opening in the ceiling was found to be best when it had half this surface. Square as well as oblong rooms could be made thus, but in the first case it was necessary to have light-openings at the four sides, whilst in oblong rooms these openings had only to be made at the long sides of the roof. Then the short walls of the room have sufficient light, as they have less importance, because doors are best made in them.

To prevent the floor being lighted too much, the upper part of the roof ought not to be glazed. If the dark space round the ceiling-opening is 5 feet wide, only the roof-openings opposite can light the pictures, and the light from the openings at the same side, which causes the annoying glimmering of the picture-surfaces, is completely shut out.

The roof of a gallery-room is best made of iron or steel, not only because wood is a very troublesome material, differences of temperature making it swell and shrink, but because metal allows a light and strong construction which is fireproof. It is desirable that the windows in the roof should be fitted with rolling blinds, as these are useful for shutting out the sunlight when necessary, and, if the gallery is open at night, help to reflect the light of the electric lamps hung between the roof and the glass ceiling. I obtained a good result with this appliance in a private gallery which I built at Amsterdam. The sunlight should not be completely shut out, however, as it helps to give the interior a cheerful appearance. So the axis of the oblong rooms should be directed from east to west.

In most museums rooms with side-light exist. On the ground floor the reflection caused by the surrounding ground makes it very undesirable to use these rooms for exhibiting pictures. Rooms in an upper story are excellent, the reflection not being felt there. It must be kept in mind, however, that in a room with side-light 22 feet from the window is the limit where sufficient light can be obtained. The intensity of the light diminishing rapidly in such rooms, pictures of large dimensions should not be hung there. The side walls, which are best lighted, cannot be used in their full length, as a space of 5 feet near the window must be left free. This space can be utilised for the door. In a room with side-light, added last year to the Ryksmuseum at Amsterdam, Rembrandt's "Night Watch" is now to be seen. This picture would be seen better if placed in a room with good ceiling-light, as it is too large for side-light. In a room with side-light there should be *one* window. The glass-line should be 7 feet from the floor, and the window run up to the ceiling. Rooms with side-light should be 20 feet high, and their length not exceed 22 feet, this being the limit where the light is found sufficient.

If the side-walls have an oblique position they are excellent for hanging pictures. The wall opposite the window being of less value, square rooms should be made for obtaining the most side-wall space possible.

In most galleries the side-lighted rooms are at the north side of the building, as, for instance, at Munich, Dresden, and Cassel. In later years, however, side-lighted rooms were made to face the east, the west, and even the south. I found this arrangement not very satisfactory. On clear days the sunlight has to be shut out by transparent blinds, the high temperature in the rooms still being disagreeable to visitors. And the chemical action of

the sunlight must have a disastrous effect on the paintings. Side-light is generally preferred for works of sculpture, which can be placed on the ground floor in oblong rooms, where the reflection of the surrounding grounds will do no harm.

I am of opinion that a gallery-room should have restraint and repose, so as to form only a background for the works of art exhibited. The walls should be quiet in design and colour. The decoration should be reduced to a minimum. In most cases the cornice, forming part of the ceiling, is very lavishly decorated; the sculptor, as well as the painter, has shown much skill in obtaining a rich effect. But what is the use of this decoration? If the works of art hung on the walls are masterpieces, nobody will care for these ornaments. It is felt at once that this decoration disturbs the harmony of the room as a whole. And if the pictures are not of high quality, even the most elaborate treatment of the cornice will not make them look better.

A gallery-room should have an air of completeness, repose, and fitness. There should be nothing in it which were better away; there should be no crude colour-effect, but all should be so tempered that the first and lasting impression is of its well-defined purpose—to show the works of art to best advantage. Furniture in gallery-rooms should be of a very discreet character, so as not to distract the visitor from the works of the great masters.

The whole problem of gallery-room decoration may be summed up in this rule—be simple, be modest, that the general effect may be unassuming.

As regards the walls, it is a good rule not to choose a pattern, but a uniform colour of a neutral kind, or strong, if desired. But the colour must be in keeping with all the pictures that happen to be in the room. A plain colour makes an excellent background. Patterns are difficult to manage, and are better avoided. If there is a pattern at all it should be of the simplest kind, quite unobtrusive both in colour and also in its motive and shape. The general tone is the important thing; pattern is a mere trifle in comparison with tone.

The pictures must give the key for the colour-scheme. Broken colours give the best results; deep red, deep crimson, deep green can be most suitable. But there are pictures that require a brilliant blue, a grey-green, or even a yellow background. Only a man of refined taste can decide what is best in each room. It is a mistake to suppose that pictures will look their best in spite of the colour of the walls. In a gallery-room the dado should have a panelling of dark wood. This is better left unpolished, to prevent reflection on the mouldings.

As a rule, the floors of the rooms in modern museums are made in concrete between steel girders. Often marble mosaic is used to cover them. This kind of pavement, however beautiful, is not satisfactory, as it reflects the light too much. A better flooring is of "parquet," made by fitting together narrow strips of hard wood, grooved and tongued, into a simple pattern. A dark tone is best for the dado and the floor. The height of the dado should be three feet. This gives the *rampe*, where pictures are best placed.

Instead of the ordinary picture rods under the cornice, with their long pendant lines of dusty cord and wire, cutting up the walls into endless queer and bad forms, a small moulding should be placed along the wall, into which hooks can be screwed and removed at will, or the lowermost moulding of the cornice may be so designed as to support the pictures.

A few suggestions on the subject of picture frames may be useful. Pictures of even high merit often have most gaudy and destructive frames. Few persons consider how completely the frame forms part of the *coup d'œil* as the eye encounters a picture, and how jarring appears either an obtrusive richly gilt margin around a very dark old painting, or a showy frame around one whose charm lies in its pallid delicacy of colouring. In the past there was constantly some intentional connection between the picture and its frame. The larger pictures, especially those representing life-size men and women, had frames at least a foot in width. As a rule, simple mouldings of dark wood, with perhaps a very small gilt margin on the inner

side, were preferred for the Dutch pictures in the seventeenth century. The Italian pictures often retain their original frames, with appropriate ornaments, now solid, then of dainty open work; frames which seem to suck in and curl round the picture—frames which, heavy and broad, project the picture forward and retreat to the wall. The Italians always gave much intelligent attention to these frames, and made their choice with the utmost care.

The rooms ought to be adapted to the pictures, and must be regarded as accessory to the main object—the works of art. There are certain colours which are infallibly good backgrounds, just as there are others which are unmistakably bad backgrounds. These are not few, but many, and what is right must be sought by artistic reflection.

To make a beautiful picture-gallery, it is not sufficient for it to have the best light possible, and the walls to have the right tone, but the works of art must also be placed well. The conglomeration of totally discordant periods and schools may be utterly confusing and unpleasant. A gallery-room should not be crowded, but wall space must be left between the pictures, which ought to be hung all *à la rampe*. Pictures never look well when hung above others.

The distribution of the pictures in a room demands thought and understanding. If hanging the paintings in two or more rows cannot be avoided, the light and delicate ones should be placed above those of heavier tone. To determine the position of the various pictures in the room and the various masses of colour which they bring within sight, the proper distribution of these masses must be studied. It is not necessary for everything to be symmetrically arranged, but there should be balance. Monotony, whether in colour, shape, or place, is as unpleasant to the eye as it is disastrous to the happy impression of the room.

Velvet is one of the most beautiful coverings for the walls of a gallery-room; it forms a fine background, and it may be kept very clean, when not brushed, but wiped with a soft, damp cloth. Moreover, it can be taken down to be cleaned. Though tapestry—for instance, old Flemish—is fine also, pictures should not be hung on it. In most cases, however, velvet is too expensive, and so the walls have to be painted.

It is not often that an architect has a free hand in these things. But I was desirous of putting forth these suggestions, not as stringent laws from which there shall be no departure, but rather to offer some practical hints. I conclude by giving a few notes on some of the principal gallery buildings.

The gallery at Brunswick, built from 1883 to 1887 by Mr. Sommer, has an oblong plan. The ground floor is used for exhibiting plaster casts, antiquities, and so forth. Here the rooms have side-light, and as they are 40 feet in depth, the lighting is not entirely satisfactory. The piers placed in the rooms for supporting the walls of the upper stories utterly destroy the effect. The staircase is at the western side of the building, and leads to rooms with skylight. As these rooms are too high, and most of the light falls on the floors, the top part of the roof having a glass covering, the effect is not as good as could be desired.

The wish to make the exterior as effective as possible led to the arrangement of two stories with side-light surrounding the rooms lighted from above. The rooms at the north side are divided into smaller compartments by walls 10 feet high. These walls are placed obliquely, and the Dutch pictures hung there have good light, which would be still better if the glass line were a few feet higher from the floor. The dark "parquet" is very suitable, and harmonises well with the woodwork painted black. The general tone of the rooms is warm and agreeable.

The gallery at Cassel is considered to have the best arrangements of any in Germany. It stands unsurpassed still, for the buildings erected in that country during the last few years are not satisfactory in every respect. The building at Cassel, erected from 1871 to 1877 by Mr. von Dehn Rothfelser, is oblong. Its principal façades are on the north-west and south-east side. This last is provided with a "loggia," from which visitors can enjoy a fine view of

the Casseler Au. The staircase is at the north-eastern side, not in a separate wing, however, but surrounded by rooms. The entrance thus being in the side façade, and the principal façade having none, the architect made a sham entrance there which is practically useless. At Cassel the rooms on the ground floor are of the same character as at Brunswick. But the gallery-rooms of the upper story are far better arranged. The rooms with side-light occupy the four sides of the building. Their dimensions and general arrangement are perfect indeed, and any architect wishing to make appropriate rooms for exhibiting Dutch pictures should study these "cabinets" at Cassel.

As I observed before, the rules given by Magnus were applied when designing the rooms with ceiling-light. But Magnus cannot be held responsible for the fault which was made when the architect, for the sake of the exterior appearance of his building, placed the ceilings too high and made the openings therein too small. The rooms are mostly painted a pale red, the woodwork a very dark green. In the rooms with ceiling-light the cornice is perhaps too elaborately treated.*

Schinkel built from 1825 to 1828 the Alte Museum at Berlin in the form of a Greek temple; certainly quite unmeaning in a northern climate. About 1880 changes were made in the interior. The rules of Tiede were applied for rearranging the rooms with ceiling-light, and small rooms with side-light were made in the north-eastern, south-eastern, and south-western wings of the building. Most of the works of art formerly collected here were transported a few years ago to the Kaiser Friedrich Museum, built by my friend Ernst von Ihne, to whom I am indebted for the plans kindly put at my disposal. The architect had a difficult task, as his building had to be placed on a triangular site—the northern part of the so-called "Museum-isle," between the river Spree and the Kupfergraben. He resolved upon placing the axis of the museum in the centre of the angle, where the bridges meet that give access to the building. A statue of the Emperor Frederick on horseback was placed there.

A Palladian style treated in the spirit of the eighteenth century was chosen for the exterior. The rooms are arranged in the axis and at the two sides, the three series being in communication with each other by transversal wings, so that five courtyards of moderate dimensions were obtained. The principal staircase is near the entrance. Between the two flights of this staircase a room on the ground floor is reached, and then the visitor enters an Italian Renaissance church, in which Italian ecclesiastical work of the fifteenth and sixteenth centuries has been placed. This church, rather small of course, was built to show what an Italian interior of the time was like. But as the southern sun cannot be had at Berlin, and the works of art give another impression when seen in an ancient church, the fine effect aimed at could not be obtained.

The other rooms on the ground floor are well lighted. There is to be found a very complete collection of sculpture, beginning from the fifth century. Most interesting are the works of the Middle Ages and the sculptures in wood, marble, and bronze by Italian masters of the fifteenth century. The beautiful mosaics from San Michele in Affricisco at Ravenna were not placed in a separate chapel built for them, but exhibited in one of these rooms. A staircase in the style of the eighteenth century, at the end of the Italian church, leads to the upper story, where the pictures are. These upper rooms have ceiling-light or side-light. A combination of the two systems has been tried here; not with good results, however, so that shutters or blinds had to be made for excluding part of the light.

An attempt has been made to arrange these rooms in the way a rich amateur would do. Antiquities of rare merit are placed along the walls, such as old inlaid chests,

* See "The Picture Gallery, Cassel," by J. D. Crace [JOURNAL, Vol. V. 1897–98, p. 65].

cabinets, chairs, and tables. Fragments in marble or bronze mix with Raphaels and Murillos. For my own part I object to an arrangement like this in a public gallery; the attention of the visitors should not be divided between the furniture and the pictures. The great masters can speak for themselves if only their works are placed in the best light possible, and if the background has the right colour.

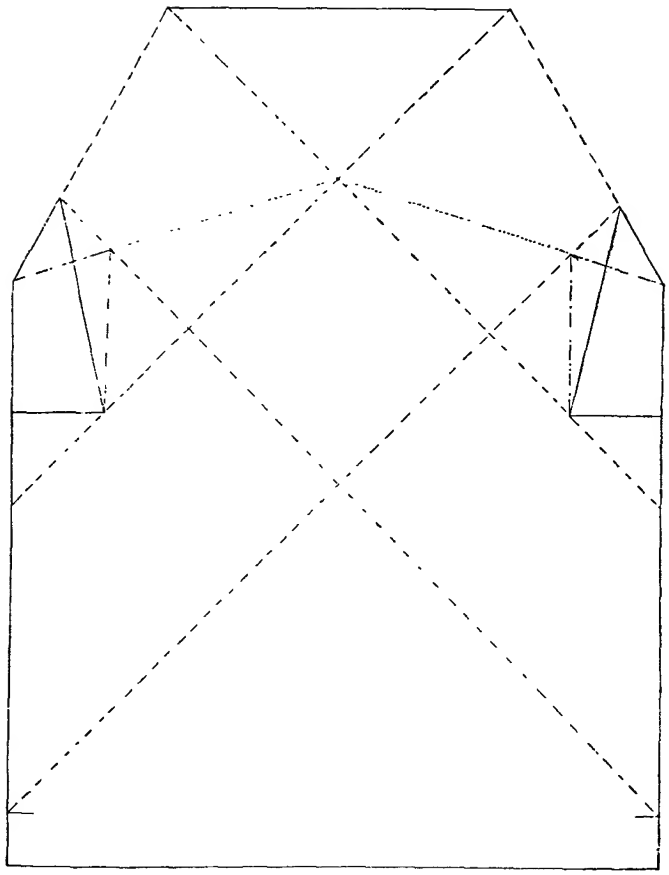
Those who visited the Rembrandt Exhibition held at Amsterdam in 1898 will never forget the wonderful impression got when seeing the famous "Syndics" in a room without furniture, but where the picture was placed in the light the painter had wished for it. In the Berlin gallery a pseudo-Dutch room has been arranged for Rembrandt. I think his works can do without such surroundings as this.

There has been much unfavourable criticism of the National Gallery building here in London, spoilt architecturally by its low elevation, its insignificant dome, and its "pepper-box" turret. But since the new wings and the central octagonal hall were added, which are improvements indeed, the interior arrangement is one of the best to be seen, and the lighting seems to me extremely well managed. Perhaps some of the rooms, for instance those of the Venetian and Brescian schools, or the eastern room of the Dutch and Flemish schools, are too large. If these rooms were divided by screens into three parts, much valuable wall-space would be gained, and the rooms would look less crowded. The pictures by British artists who have worked within the last hundred years have now been transferred to the Tate Gallery, a building where all rooms have skylight, and whose plan presents many features which I admire. The architect, Mr. Sidney R. J. Smith, has shown his skill in the entrance halls, and has given the rooms the light they ought to have, and subdued their decoration to the valuable works of art exhibited.

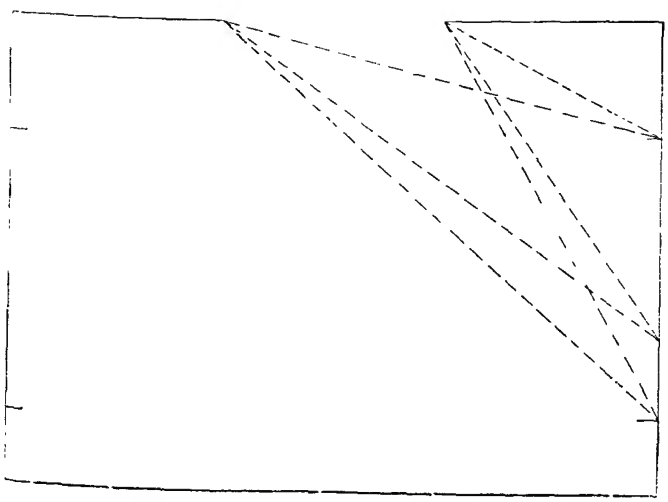
It is here the place to say a few words about Hertford House, the palatial home which enshrines the Wallace Collection. Perhaps, when the owner of these beautiful things enjoyed there the intimacy of private life, when he and his guests sat on the chairs eating their dinner at the tables from the Sèvres porcelain, all looked better than it does now. If a special museum were built to contain these art treasures, separate rooms could be arranged for the pictures, the furniture, the porcelain, the miniatures, the enamels, the arms and the armour, so that they could be seen under the best light. This building could also be made absolutely fireproof, which Hertford House in its present state is certainly not.

The "Alte Pinakothek" at Munich is remarkable as being the first gallery built expressly for the purpose of exhibiting works of art. It was opened in 1833 and has served as a model for most of the other museums in Germany. The building has an oblong form, and is situated in the centre of a large square. The axis is from east to west, so that the principal façades are north and south. The entrance is at the east side. Of the rooms on the ground floor, where the prints and the antiquities are, nothing needs to be said, as they offer no interesting features. The gallery rooms proper are in the upper story. Seven rooms with skylight contain the pictures of great size; the smaller ones are arranged in a series of twenty-four rooms with side-light from the north, and in four larger rooms with side-light from east and west. The southern side of the building is occupied by a "loggia." The skylight is not what it should be, as the rooms are too high and the openings too small. The system of lighting is the same as in the National Gallery in London. But as the rooms of the latter building are much less elevated, and the light openings well proportioned to the floor-surface, a far better result is obtained in them.

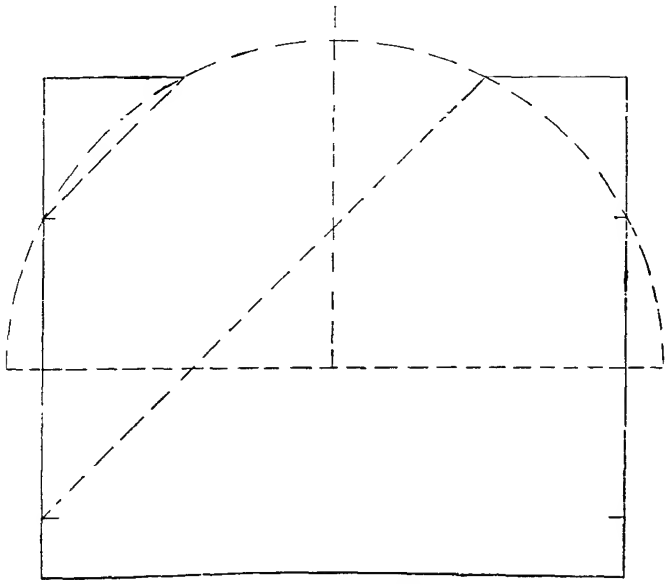
At Munich the rooms with side-light are not so good as those at Cassel, the windows not having the right dimensions. The decoration of the interior is decidedly too showy. A few simple colours judiciously treated in the flat surfaces and cornices of the rooms would



WEISSMAN'S CONSTRUCTION FOR A SKYLIGHT ROOM.

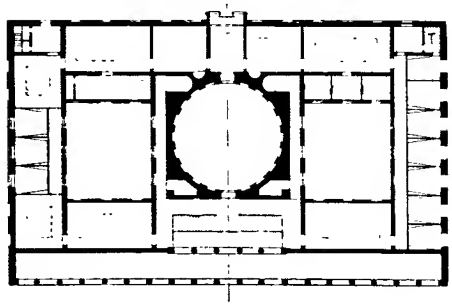


MAGNUS CONSTRUCTION FOR A SKYLIGHT ROOM.

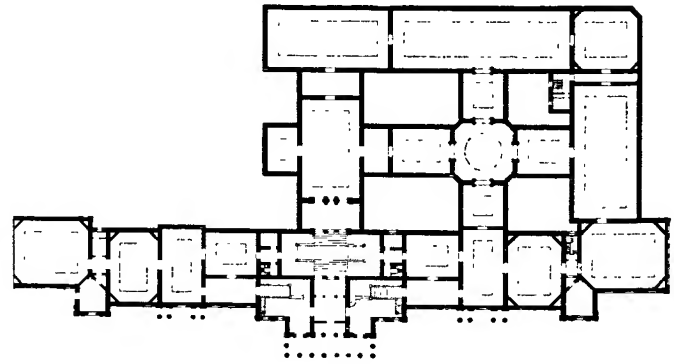


TIEDE'S CONSTRUCTION FOR A SKYLIGHT ROOM.

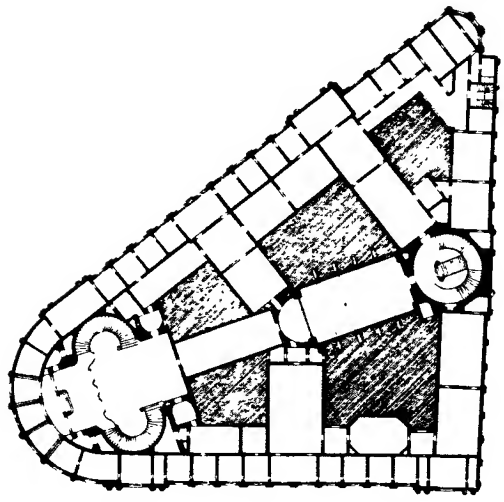
ALTES MUSEUM, BERLIN.



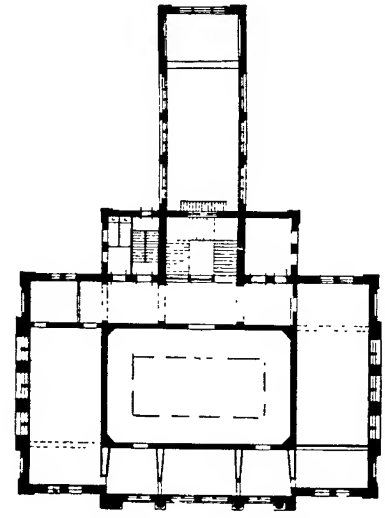
ALTES MUSEUM, BERLIN.



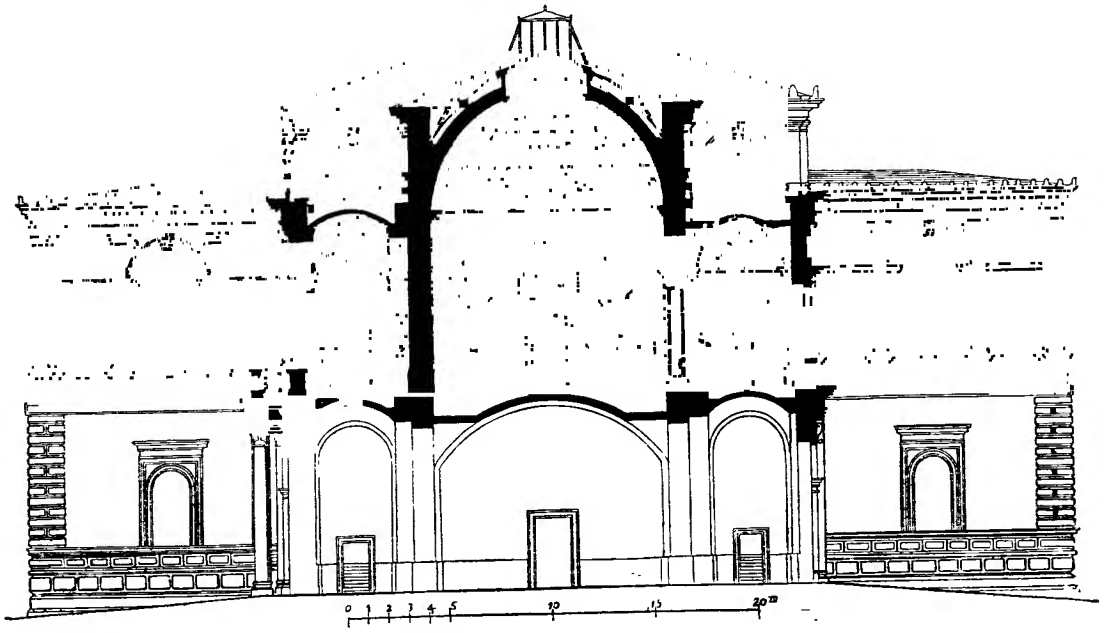
NATIONAL GALLERY, LONDON.



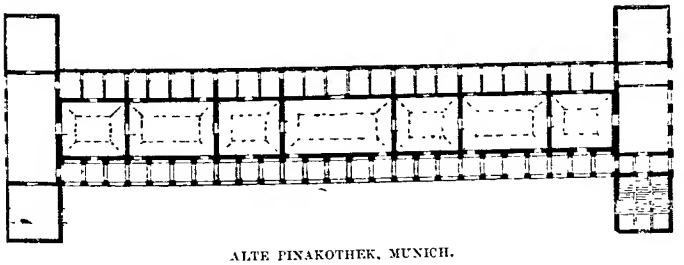
KAISER FRIEDRICH MUSEUM, BERLIN.



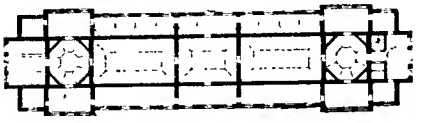
KESTNER MUSEUM, HANOVER.



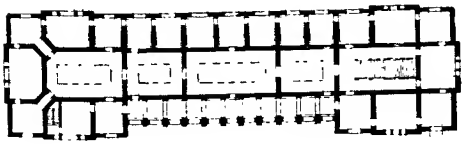
SECTION ALTE PINAKOTHEK, MUNICH.



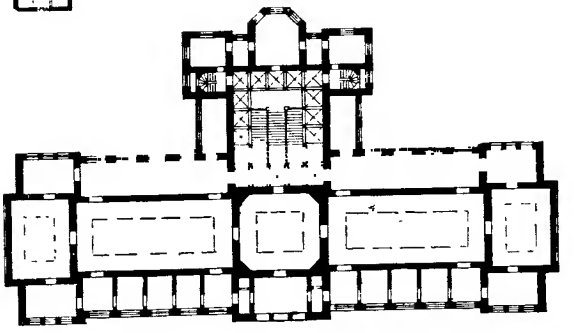
ALTE PINAKOTHEK, MUNICH.



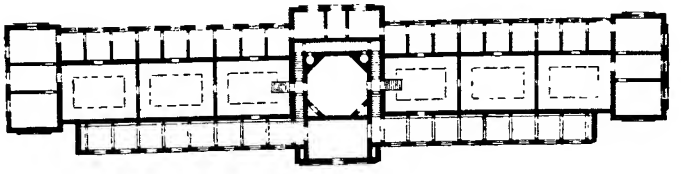
MUSEUM, BRUNSWICK.



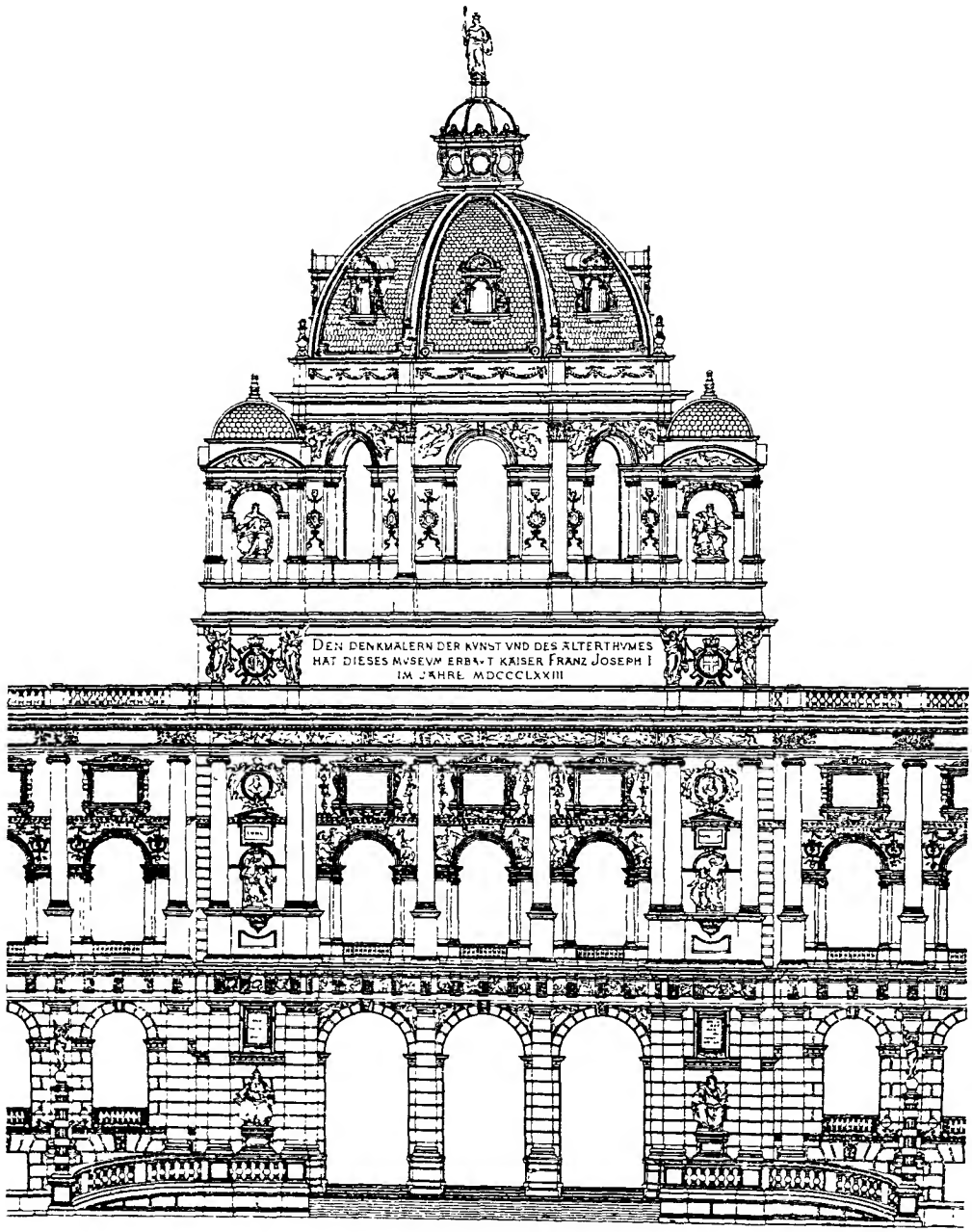
GALLERY, CASSEL.



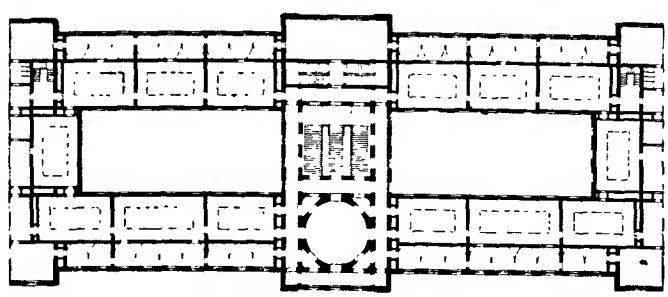
STADEL INSTITUTE, FRANKFORT.



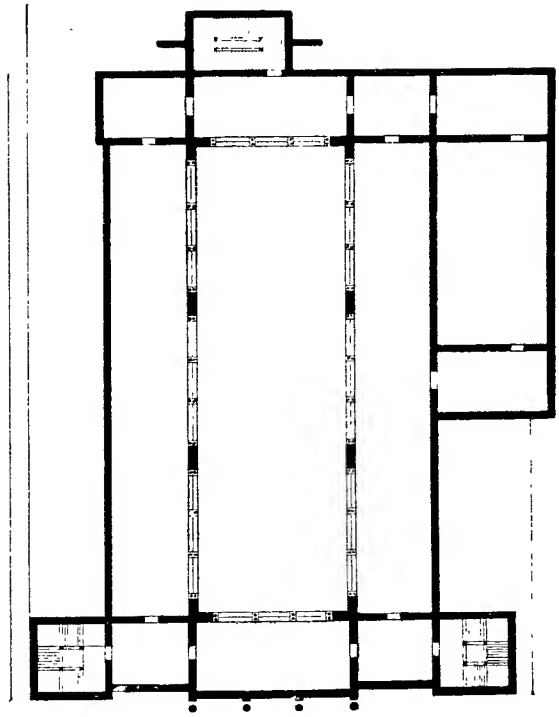
MUSEUM, DRESDEN.



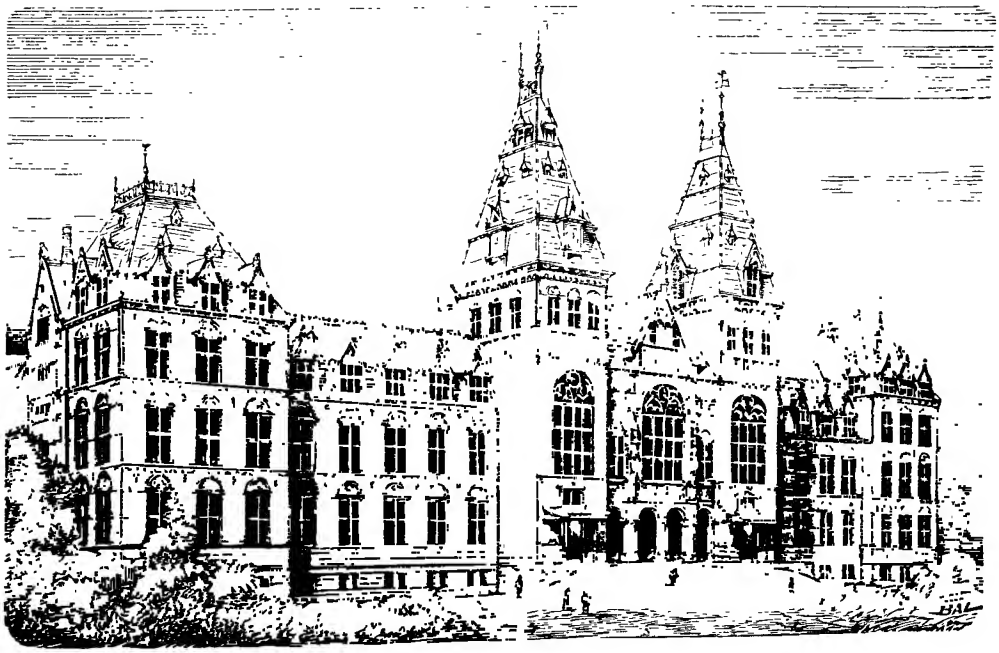
HOFMUSEUM, VIENNA.



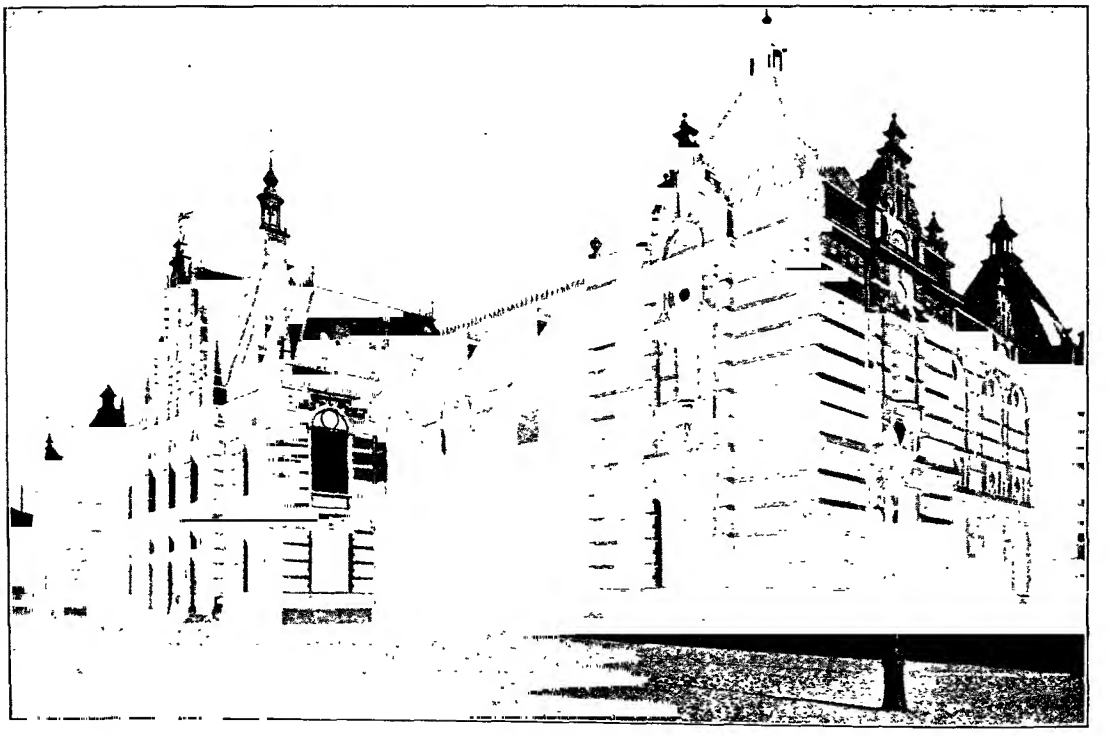
HOFMUSEUM, VIENNA.



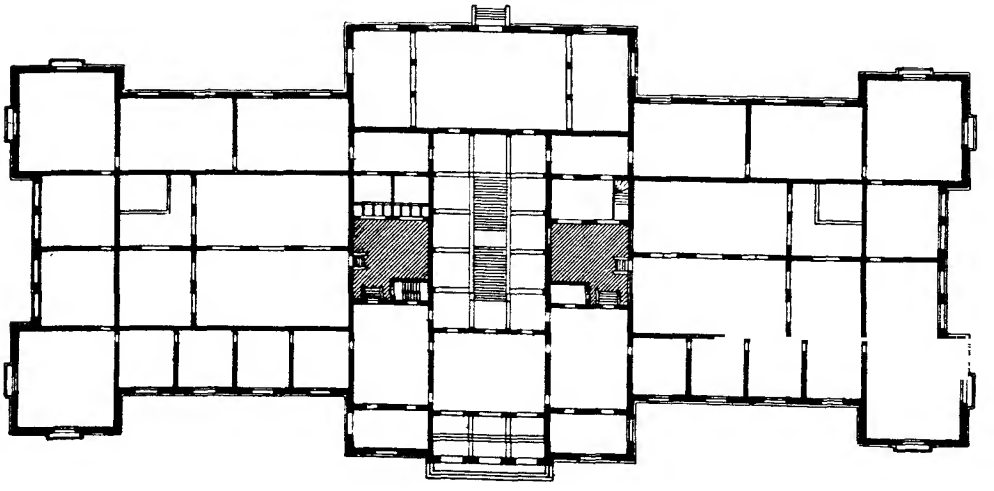
MUSEUM, BRUSSELS



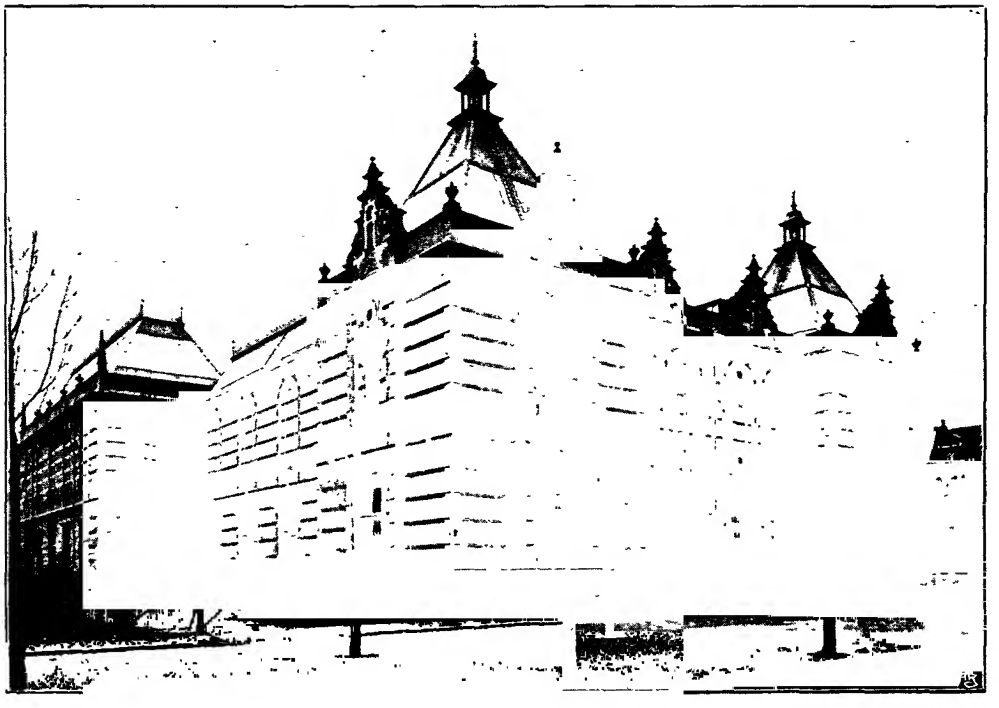
RYKSMUSEUM, AMSTERDAM.



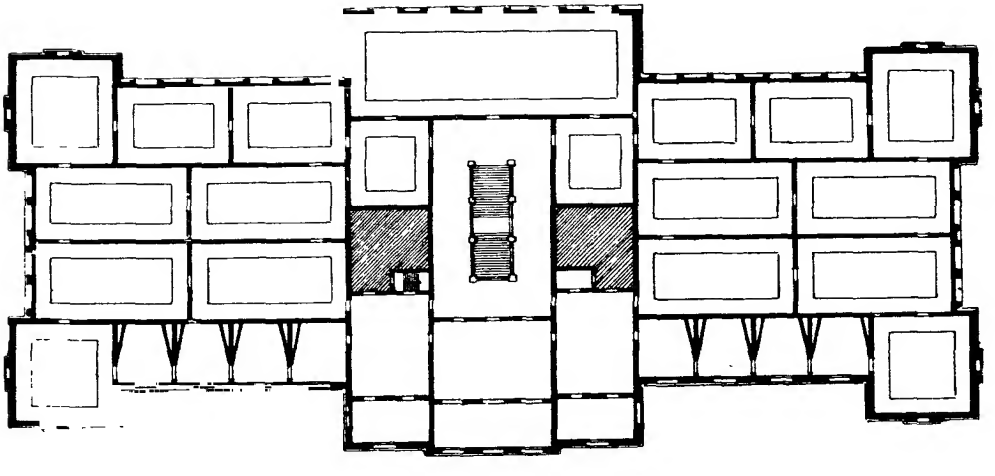
CITY MUSEUM, AMSTERDAM: NORTH-WEST VIEW.



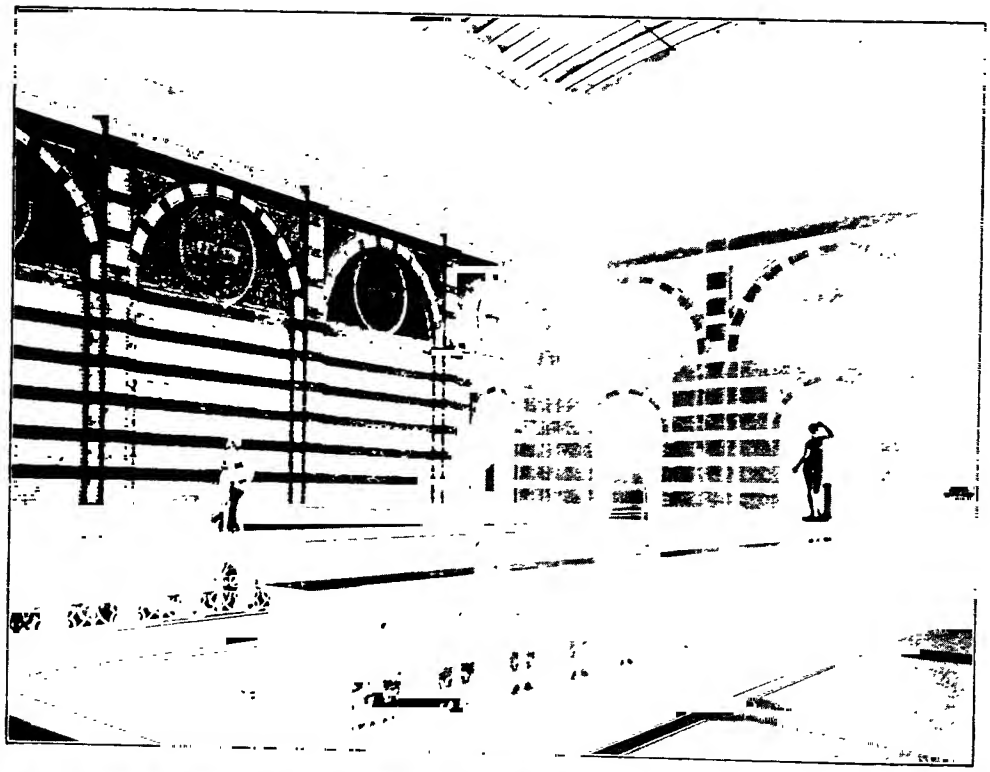
CITY MUSEUM, AMSTERDAM: GROUND-FLOOR PLAN.



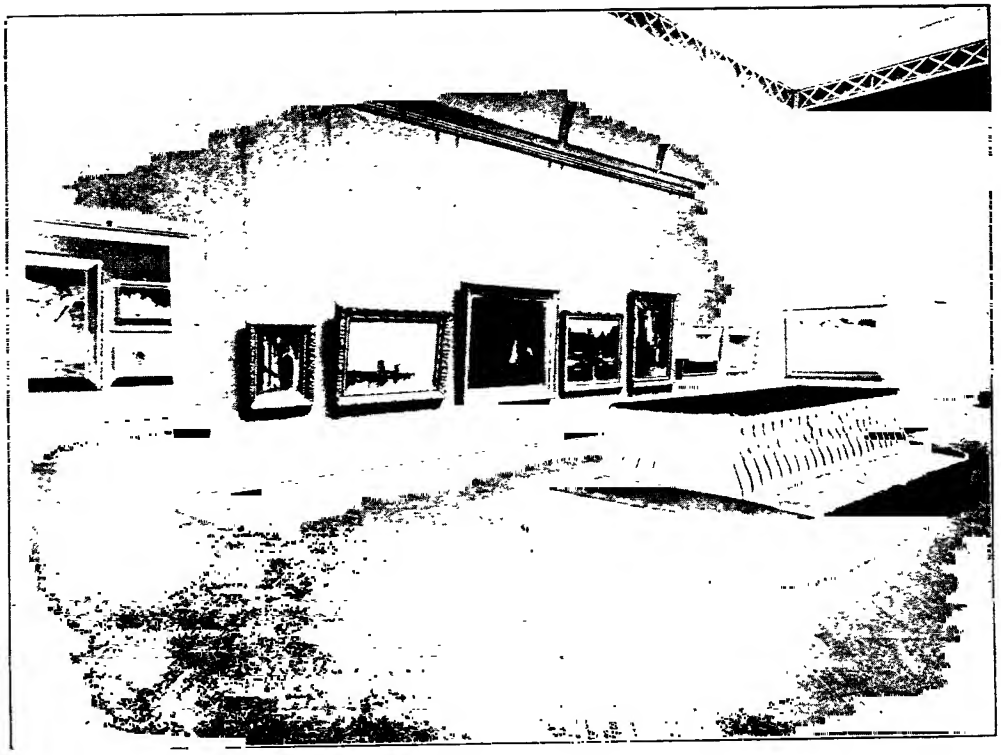
CITY MUSEUM, AMSTERDAM : SOUTH-EAST VIEW.

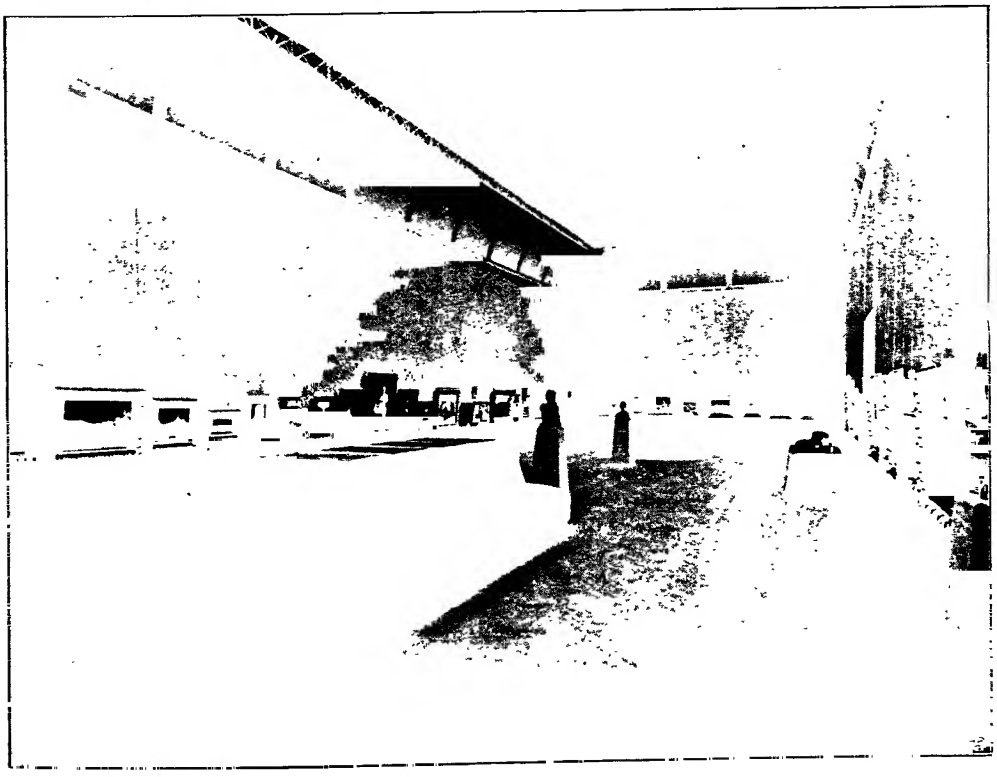


CITY MUSEUM, AMSTERDAM : FIRST-FLOOR PLAN.



CITY MUSEUM, AMSTERDAM: STAIRCASE.

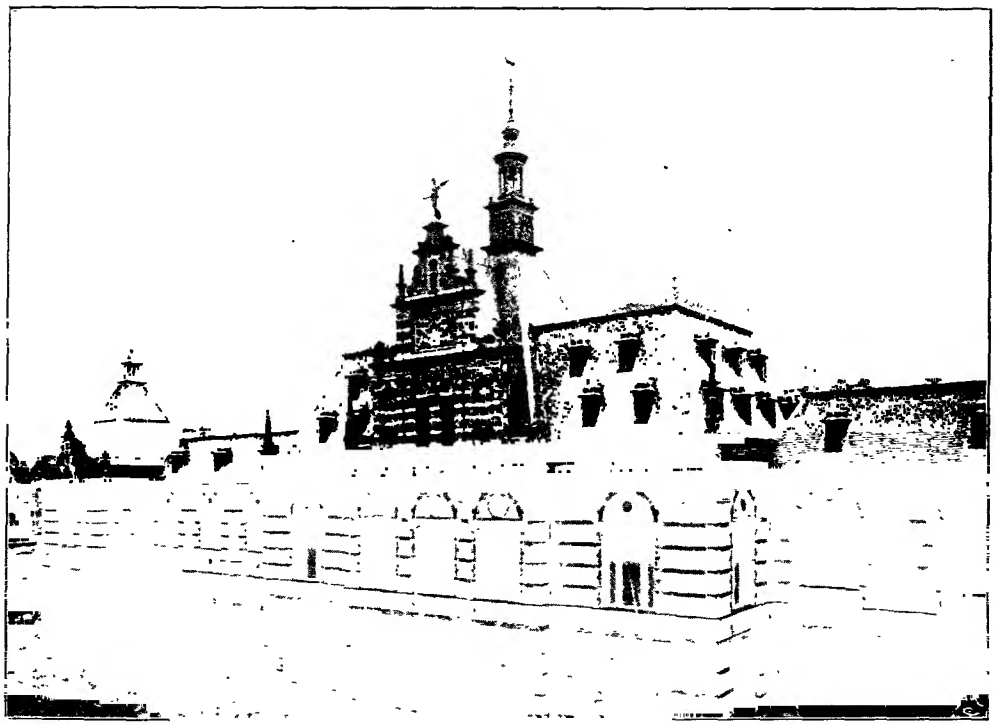




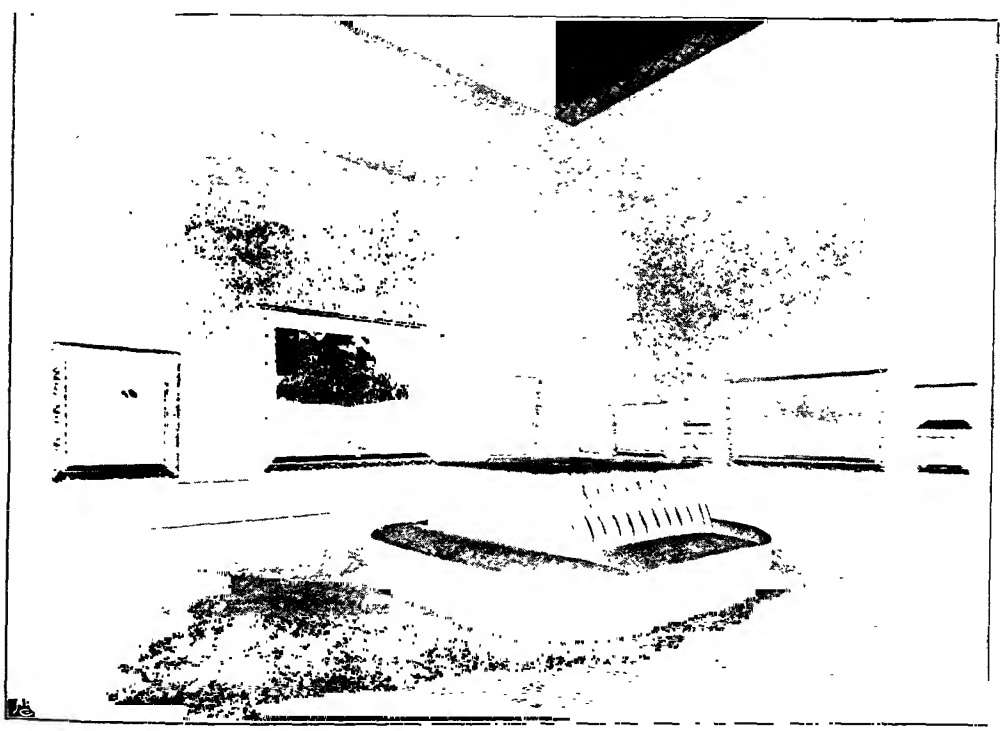
OBLONG ROOMS, CITY MUSEUM, AMSTERDAM.

ROOM WITH SIDE LIGHT, CITY MUSEUM, AMSTERDAM.

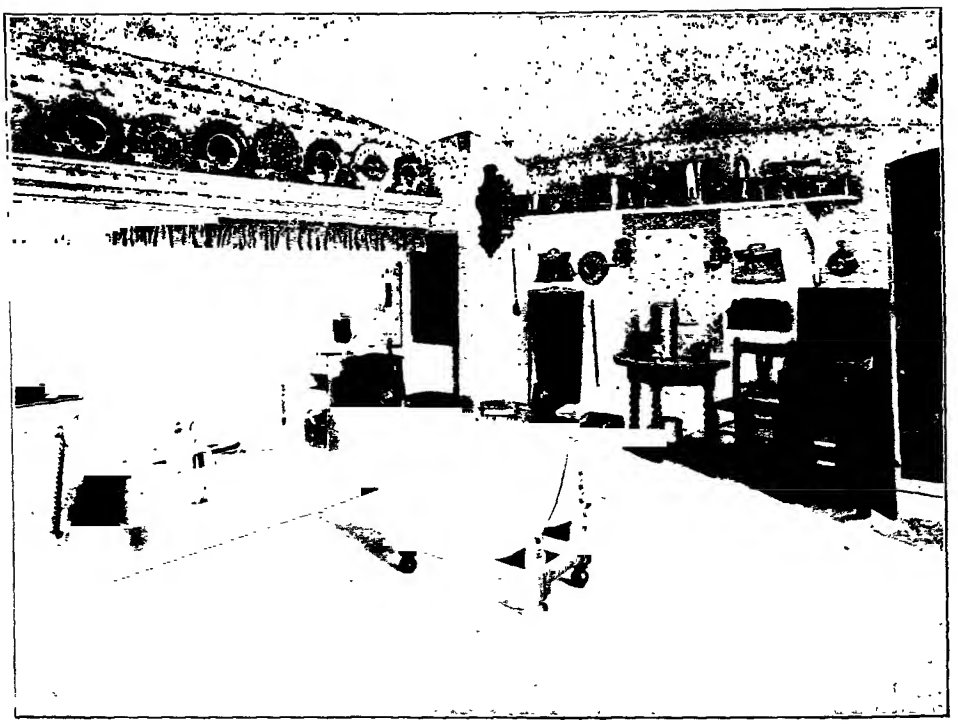
ROOM IN THE SEVENTEENTH-CENTURY STYLE, CITY MUSEUM, AMSTERDAM.



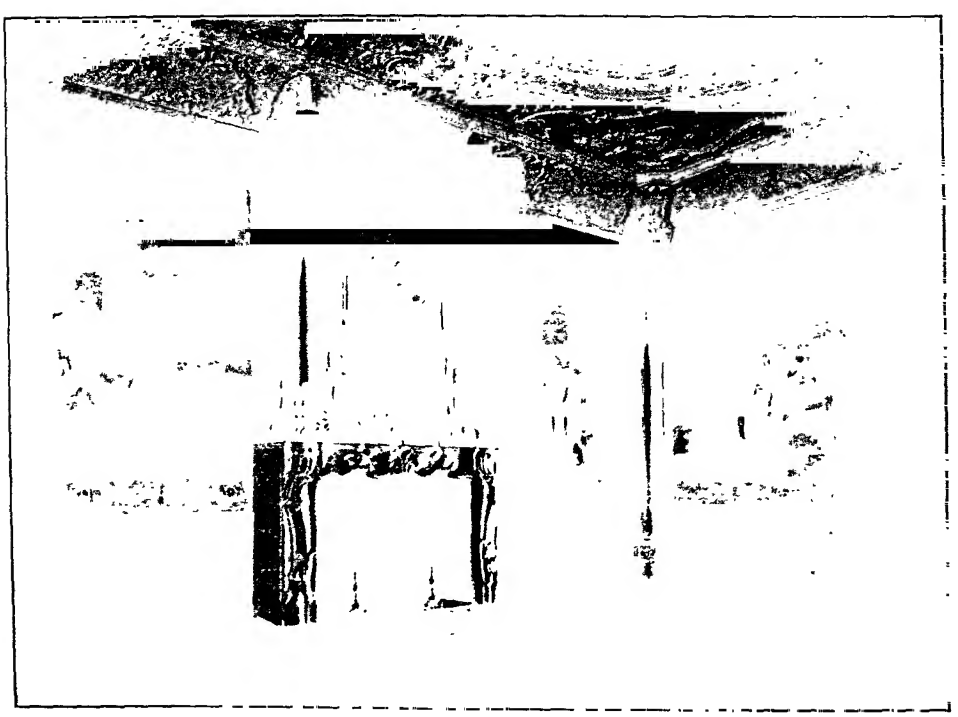
CITY MUSEUM, AMSTERDAM: CENTRE PART.



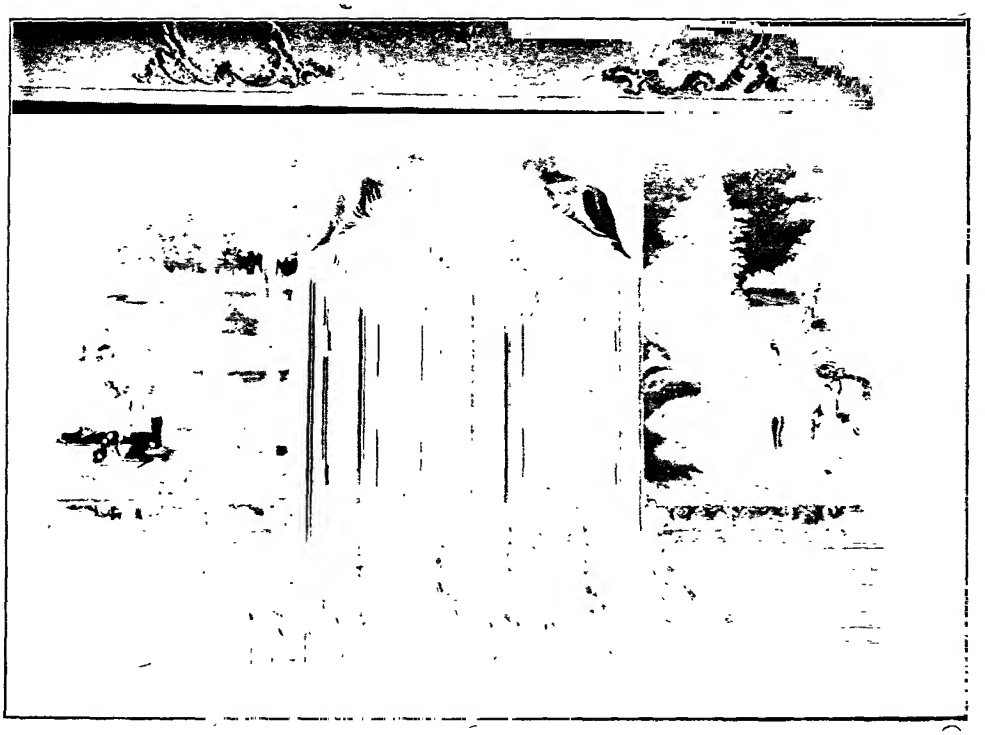
CITY MUSEUM, AMSTERDAM: SQUARE ROOM



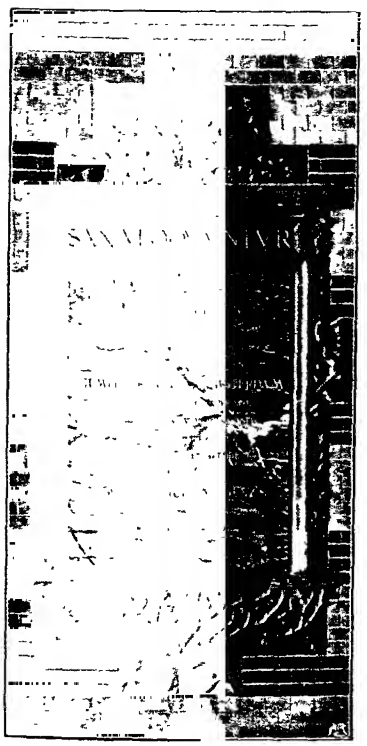
SEVENTEENTH-CENTURY KITCHEN, CITY MUSEUM, AMSTERDAM.

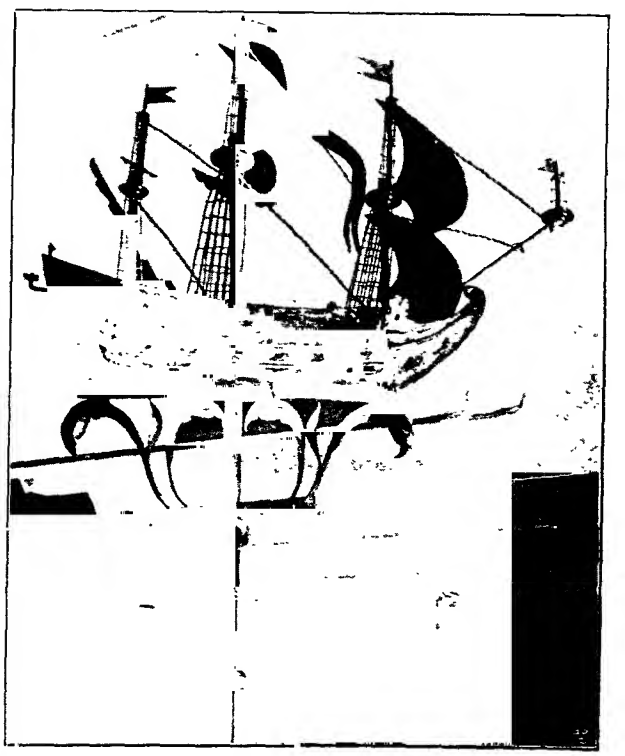


ROOM IN THE EIGHTEENTH-CENTURY STYLE, CITY MUSEUM, AMSTERDAM

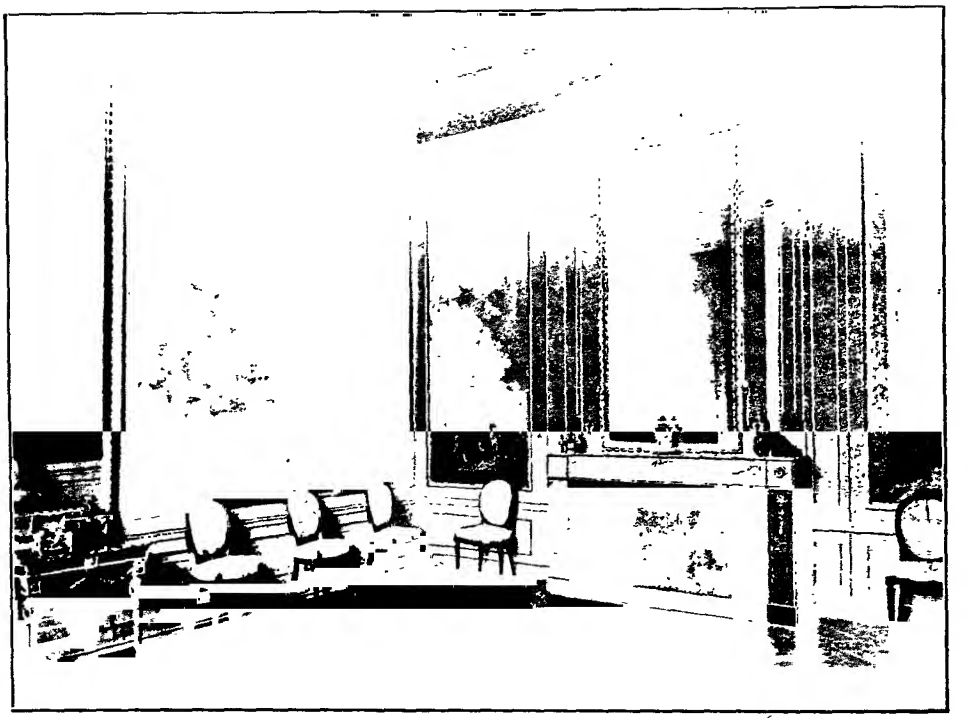


ROOM IN THE EIGHTEENTH-CENTURY STYLE, CITY MUSEUM, AMSTERDAM.



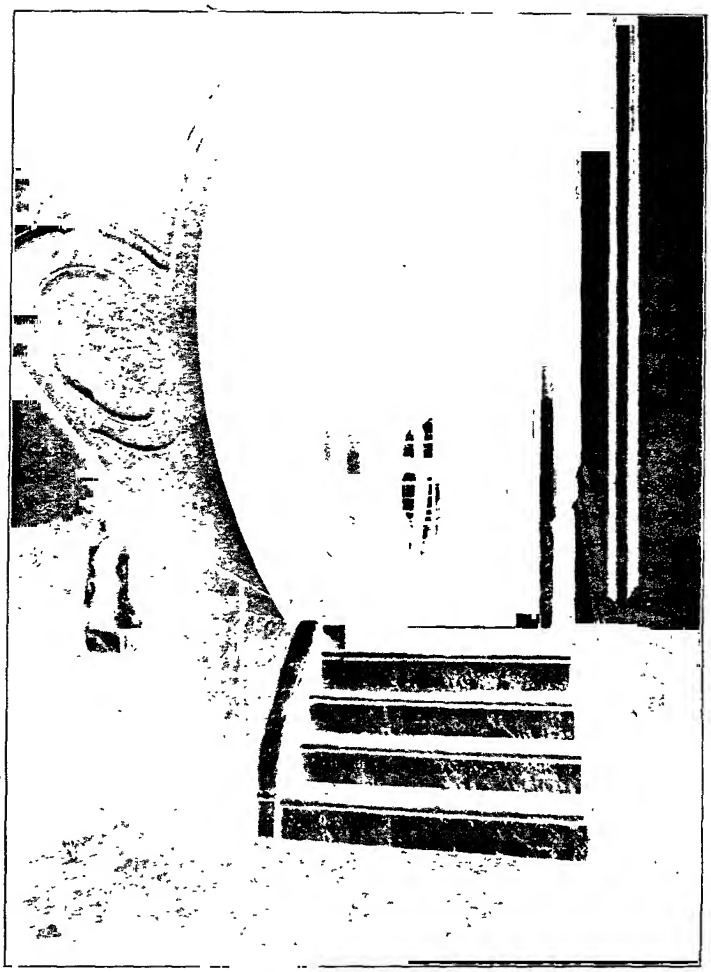


DETAIL AND VANE, CITY MUSEUM, AMSTERDAM.

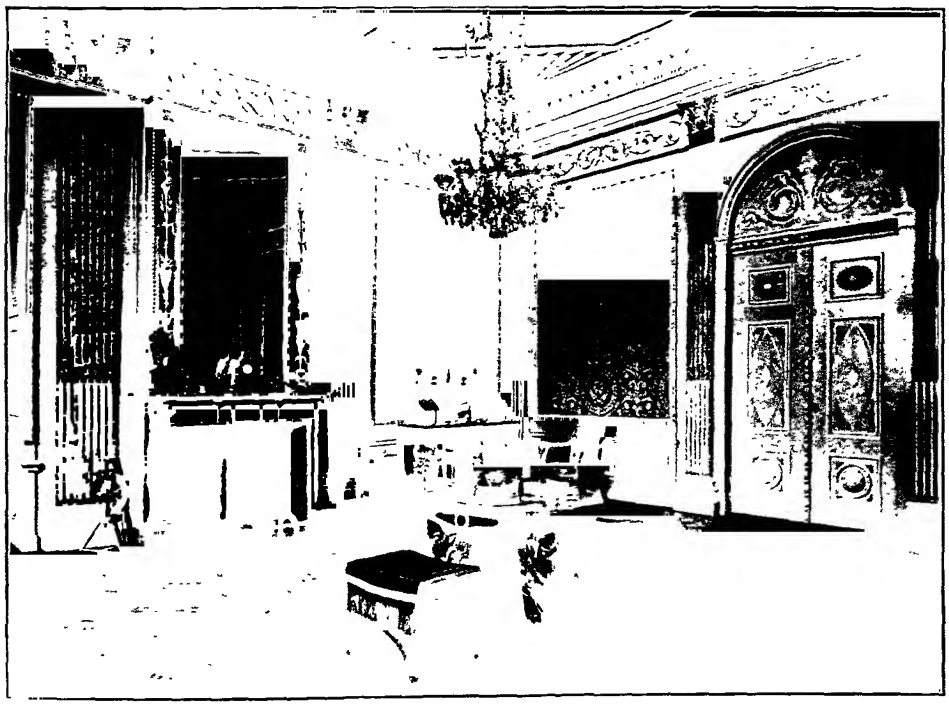


ROOM IN THE LATE EIGHTEENTH-CENTURY STYLE, CITY MUSEUM, AMSTERDAM

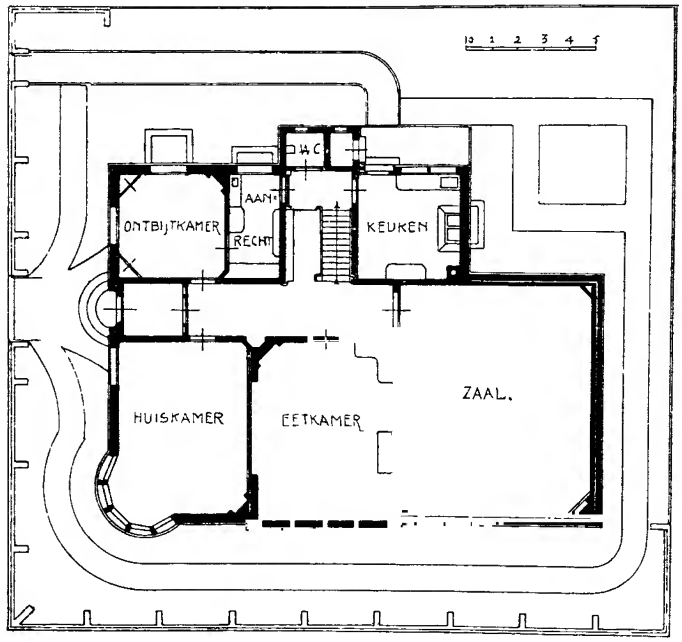
ROOM IN THE EIGHTEENTH-CENTURY STYLE, CITY MUSEUM, AMSTERDAM.



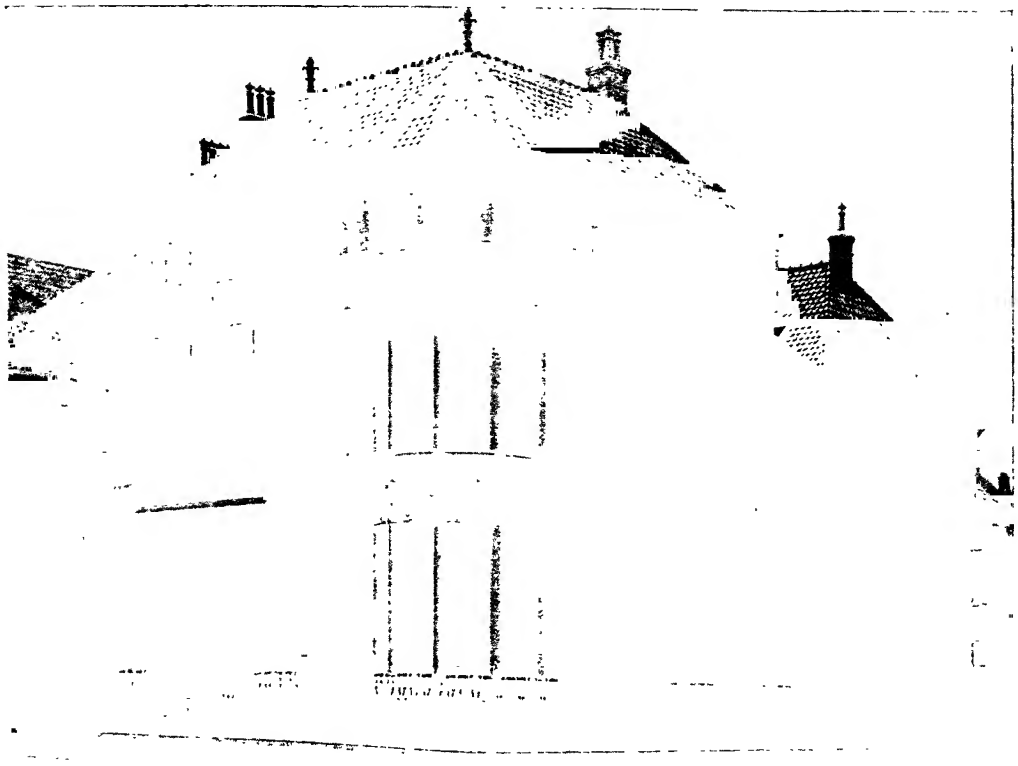
EIGHTEENTH-CENTURY STAIRCASE, CITY MUSEUM, AMSTERDAM.



ROOM IN THE STYLE OF THE EARLY NINETEENTH CENTURY, CITY MUSEUM, AMSTERDAM



HOUSE AT AMSTERDAM: GROUND FLOOR.



HOUSE AT AMSTERDAM.

have rendered them more pleasant to look upon, and would have given a better background for the works of art, most of which are of the highest quality. The exterior of this building is in the style of the Renaissance. In the vicinity we find the "Neue Pinakothek," a building where modern paintings are exhibited. The gallery is interesting because its north and east fronts are covered with frescoes. This revival of the ancient fresco-painting externally was a failure, however, as the northern climate washed away the colours from the walls.

Semper took the "Alte Pinakothek" for his model when designing the famous Dresden gallery-building. But he had to make changes, it being found necessary to connect the Zwinger Palace with the river Elbe by a public passage in the centre of the museum. This passage gave much trouble to the architect, as it cut the ground floor into two parts, making two entrances necessary, and preventing the arrangement of a central staircase. Moreover, the vaults covering the passage being on a higher level than the floor of the upper story, the rooms of the gallery proper had to be separated by an octagon hall, reached by flights of steps. The building was begun in 1847; but as Semper, having taken part in the revolution of 1848, fled to Switzerland, and afterwards to England, he is not responsible for the execution of his drawings. In 1855 the museum was opened. The arrangement of the interior is in most respects similar to that at Munich.

Semper is also the author of the "Hofmuseum" at Vienna, built since 1872 under the supervision of Mr. Hasenauer. The exterior, in the style which the Germans call the "Hoch-Renaissance," is very effective. A cupola crowns the centre-part, and the principal staircase is one of the most magnificent to be found anywhere. The plan of the building has an oblong form, and contains two spacious courtyards. On the upper story fourteen rooms with sky-light surround these courtyards; rooms with side-light are arranged along the façades, in two stories, as at Brunswick. The uppermost of these stories is not reached by the principal staircase, but by separate flights of steps. It is felt at once that the designer cared much more for the beauty and the completeness of the building than for its fitness as a museum. He made the rooms with skylight much too high, and his "Venetian" windows, though a very decorative element in the façades, cannot be said to be appropriate for rooms where most valuable paintings are exhibited. The aim has been to produce a palatial building, and the museum is certainly an imposing structure, forming part of a scheme for improving the surroundings of the ancient Hofburg, where the Emperor of Austria resides. The Museum of Natural History opposite the Hofmuseum is of the same size and style. Thus absolute symmetry has been obtained, but its effect perhaps is rather dull.

The galleries at Brussels and Antwerp show the classic orders. The details have been carefully studied by the designers, the proportion is refined, and the exteriors have dignity and grace. But in both cases the interior arrangements had to be sacrificed. At Brussels we enter a huge hall surrounded by galleries which is imposing enough, but more fit for a bazaar than for exhibiting works of art. The pictures are placed in the galleries; but most of the light coming from the central hall, the effect is not as good as could be desired. The gallery at Antwerp has a fine staircase, but, as the rooms are high and the ceiling openings rather small, reflectors had to be applied for ameliorating the light, which in spite of this cannot be said to be sufficient.* At Paris the Louvre was appropriated for a gallery a century ago. The vast halls strike us as cheerless rooms, because sufficient light is wanting. During the last few years, however, improvements have been made by arranging a central room with skylight at the west end, which is surrounded by small rooms with side-lighting. The central room contains the paintings of Rubens, placed in frames of an architectural character, perhaps

* See "Picture Gallery Decoration: New Galleries at Brussels and Antwerp," by J. D. Crace (R.I.B.A. JOURNAL, Vol. IX. N.S., 1892–93, p. 52).

a trifle too elaborately treated. The works of the Dutch masters have found their proper places in the rooms with side-light.

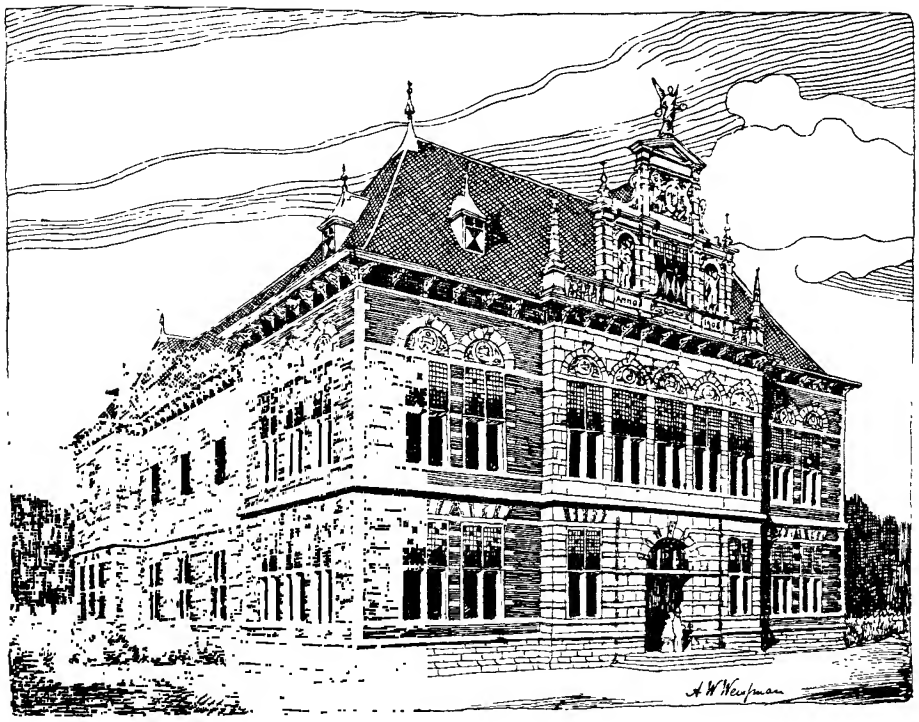
The Ryksmuseum at Amsterdam is one of the rare instances in which mediæval forms have been used by the designer. Mr. Waterhouse's fine Museum of Natural History at Kensington has evidently been studied by my fellow-countryman, Mr. Cuypers, who has succeeded in regaining the lost excellence of an ancient style, without copying it closely. He has studied deliberately the Gothic architecture of France, and, putting to use also the treasures of the Dutch sixteenth-century works, has developed a system of his own. The general design is well adapted to the requirements of the building, to its place in an open site, where the museum stands free on every side. Mr. Cuypers' building is, to my mind, one of the best designs in the picturesque fashion which modern times have seen. No person could ever mistake this museum for a design of the Middle Ages; and yet its character as a Gothic structure is perfectly maintained.

I have already said that the architect was obliged by the authorities to make a public passage in the centre of the building. This passage, with the two massive towers adjoining it and the central hall, has an independent beauty of its own. The passage is designed as an oblong room, divided into three naves, vaulted over. The roof is supported by pillars, with delicate sculpture in the capitals. The central nave is double the width of the others. This arrangement has been repeated in the upper story, the central nave forming a large vaulted hall, and the two lateral aisles being divided into chapels with skylight. At the ends the three naves are combined so as to form separate halls; one of these might be called the narthex, the other the choir. Rembrandt's "Night Watch" was intended for the place of honour, where the high altar would have been in a church. The principal works of the other great Dutch masters were to have their places in the side chapels.

Architects admire and enjoy an arrangement like this. They are struck by the beauty of the roof with its elaborate structure of ribs carrying the vaults, which, when leading the eye away to Rembrandt's masterpiece, added to the ultimate effect of grandeur dependent upon space, the abundant detail in moulding and floral sculpture increasing the effect of size.

In this building nothing has been inserted for mere ornamentation, but Mr. Cuypers has made his constructional members tell as decorative features. Even the rich painted ornaments of the interior have a special meaning. The primary object of the designer has been to treat the construction as the main inspiration of his design. Inside and out everything is shown as it really is, and the exact duty done by every part of the structure is clearly visible. The forms are exquisitely balanced, towers being made to mark the places where the staircases are. The sculpture is also especially noteworthy as being full of that mediæval feeling which forced all into the service of the architectural design. And yet, while architects admired the building, artists and lovers of old Dutch art were of opinion that the pictures had not the light they ought to have, and that they were out of harmony with the surroundings. Public opinion being on the side of the critics, Mr. Cuypers was forced, after a struggle of twenty years, to make an addition to his building, which spoils the effect. Rembrandt's "Night Watch" was taken away from its original place, and is now to be seen in a room with side-light from the south, two smaller rooms containing the other works of the master. So the place of honour in the building is now empty.

Now I come to the last stage of my Paper, having to say a few words about the gallery buildings I myself have erected or designed. The City Museum at Amsterdam was built at a cost of £ 45,000 from 1892 to 1895. It is constructed of red brick and stone dressings, with slated roof. The arrangement of the plan had to be governed by the position of the site. So the principal façade, where the picture rooms with side-light were intended, is on the



PROPOSED MUSEUM, HAARLEM

northern side. As there was no architectural style peculiar to the nineteenth century, my building had to be more or less suggested by the fine art of the time, when there existed a style of interest in Holland. This style I found in the Dutch Renaissance of the beginning of the seventeenth century. But I did not follow closely the examples set by former ages. In designing the details I went my own way, avoiding the copying of sculpture and of the curvature of mouldings from ancient examples.

Externally the principal feature of the building is the centre part where the three entrances, with a "loggia" above, give a sheltered promenade to the visitors. This "loggia" is a luxury, of course; but as the building originally overlooked a large square, this addition was well worth the expense. As I have said before, a few years ago the square was sold for building purposes, and the "loggia" now fronts a street. A small clock-tower crowns the centre part of the building; its vane is ancient, and has the form of a battleship of the seventeenth century. A similar vane is exhibited in one of the gallery-rooms, as the fine workmanship is well worth a close inspection.

The central hall contains the principal staircase. Here the walls are faced with red and yellow bricks. A light red sandstone is used for the dressings, and painted glazed tiles, made by the Rozenburg factory at The Hague, form part of the decorative scheme. The staircase has skylight, with glass of a warm yellowish tone. This gives it a cheerful appearance, even on the dullest days. As it would not be well to enter the gallery-rooms at once from this warm light, comparatively dark rooms were arranged which the visitors have to pass before entering. The doors which connect the staircase with the gallery-rooms were not intended for the public. Unfortunately they are often left open.

The system of lighting the gallery-rooms has been already referred to. Care has been taken that no light can be intercepted by the roofs or the clock-tower. The sizes of the rooms

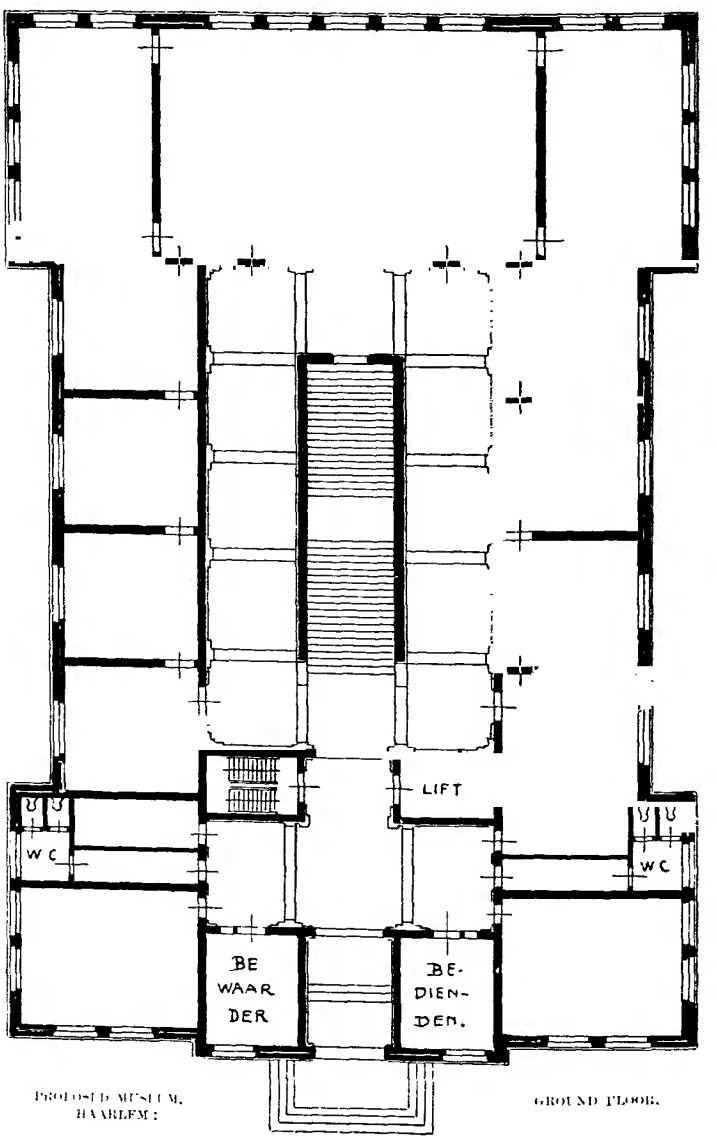
vary between 40 feet and 100 feet in length; the oblong rooms are from 25 feet to 32 feet wide. There are six square rooms of 32 feet. All these rooms have skylight. The rooms with side-light are eight in number.

The floors in the gallery-rooms are teak "parquet," the woodwork being oiled, so as to show the beautiful grain. Originally the walls of the rooms were painted, but now canvas in warm tints, such as olive-green and deep red, has been put on them. The texture of the canvas forms a good background. There are no decorations in the rooms. In the twelve rooms of the left wing a collection of modern paintings, including masterpieces of the Dutch and the Barbizon schools, are arranged. The remaining fourteen rooms are used for temporary or loan exhibitions.

All the rooms on the ground floor have side-light, and surround spacious store-rooms, which are lighted from two small courtyards. The rooms in the left wing are devoted to old Dutch furniture, woodwork, porcelain, and so forth. Every room is so arranged as to form a whole representing a period of Dutch art. In the right wing a curious old apothecary's shop is to be seen, besides other antiquities of interest. The building has been constructed fireproof throughout, wood having been used for the doors only.

In 1903 I erected a house at Amsterdam for a gentleman possessing a valuable collection of modern Dutch and French pictures. To show them to their best advantage a gallery-room had to be made, which forms part of the ground floor, where the morning-room, the dining-room, the drawing-room, and the kitchen are planned. I made the entrance on the north side. The morning-room faces the east, the drawing-room and the dining-room face the west. The gallery-room is on the south side. The plan was so arranged as to result in a more or less square building, which would have the advantage of a simple roof. As the gallery-room, being lighted from the top, was to have a roof of its own, a "V-gutter" was necessary: but this was constructed so that it could not act as a "pocket" and be liable to be filled to a considerable depth after a snow-storm.

The kitchen odours are kept

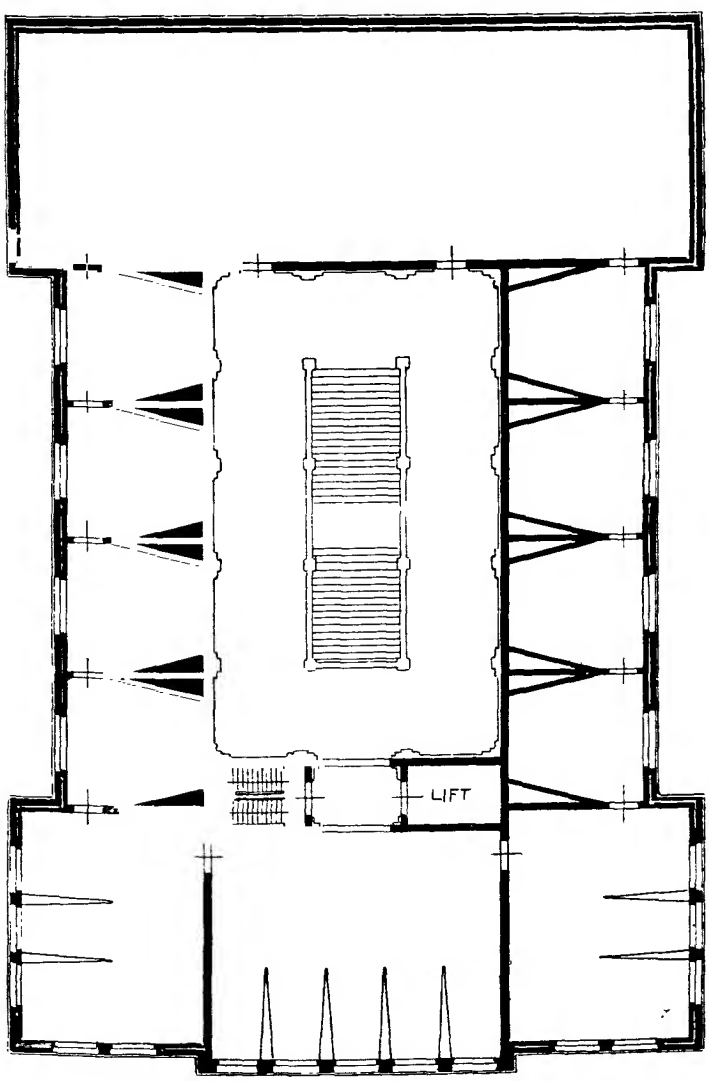


PROPOSED MUSEUM, HAARLEM: GROUND FLOOR.

from the hall by a separate room with ventilation. The staircase is out of sight of the door, and no one calling can see into the house from that point. All the ceilings are made of cedar-wood or oak; the walls of the principal rooms are covered with velvet or silk; the mantelpieces are Italian marble, with modern Delft tiles.

The exterior is of red brick, with grey granite dressings. Delft "grand-feu" tiles, where the joints follow the outlines of the design, fill the panels between the bay windows and in the upper part of the gallery-room façade. The roof is covered with red Dutch tiles; it projects from the house to keep the walls dry. The windows are glazed with plate-glass, and the upper parts of them are filled with designs of leaded glass.

The gallery-room has a light and cheerful appearance, and serves as a music-room, a piano and comfortable seats being placed in it. The floor is oak "parquet," with ancient Indian and Persian carpets here and there. The dark green velvet on the walls forms a good background for the pictures. The electric lamps are placed between the roof and the glass ceiling. Their light is reflected by screens, which shut the windows in the roof at night.



PROPOSED MUSEUM, HAARLEM: FIRST FLOOR.

Last year the Haarlem City Council decided that the works of art, including the world-famous pictures of Franz Hals now exhibited in the ancient town-hall, which is not fire-proof, should have a safer building. And so, extraordinary though it may seem, an ancient orphan-house was bought—which is not more fire-proof, of course! But the Council thought it an economical way to buy this ancient building. Though the orphan-house was low-priced, I fear it is not quite as big a bargain as it seemed. For I am sure the additional outlay in putting it to rights will bring the expenditure to a rather considerable sum.

The orphan-house being entirely built in, and its situation in a sordid street not seeming very appropriate, I suggested the building of a new museum, to be placed in the centre of the "Flora Park," a large square. The proposed building would be two stories high and of fire-proof construction. The ground floor would be devoted to the valuable antiquities that form part of the city's collections. On the first floor there are eight rooms,

lighted from the side, where the eight masterpieces of Franz Hals could be placed. Other rooms with side-light and a room with ceiling-light would be well adapted for the other pictures.

In the treatment of the exterior consideration had to be given to the many parts in which the wall faces are divided. The problem of grouping these was not easy to solve. The small parts were to make distinctive features, and yet the unity of the whole had to be maintained. The eastern façade should have the greatest importance owing to the position of the building. This was done by the arrangement of a gable, which led to the choice of the seventeenth-century style, of which Haarlem possesses fine examples.

As yet the City Council is not in sympathy with my plan. But I have public opinion behind me, and I hope that the Council, recognising its responsibility, will erect a building as fit as possible, and not store its invaluable art treasures in an ancient building, where they would neither be safe nor be shown to best advantage.

I desire to acknowledge my indebtedness for some of the blocks illustrating my Paper to Messrs. D. Bolle, Rotterdam, and H. Kleinmann & Co., Haarlem, who have courteously placed them at my disposal.—A. W. W.

DISCUSSION OF MR. WEISSMAN'S PAPER.

Mr. Leonard Stokes, *Vice-President*, in the Chair.

Sir LAWRENCE ALMA-TADEMA, O.M., R.A., *Hon. Fellow*, addressing the meeting at the invitation of the Chairman, said: It is very gratifying to the Institute that a brother architect from across the seas should come to talk to us about picture galleries and museums and how to build them; I, for one, have appreciated it very much. The great difficulty is the lighting of the pictures. The best result obtained is, I believe, in the Society Arti et Amicitiae in Amsterdam, where the glass is in the sides of the ceiling, lighting the opposite walls only. Of course such a system of lighting could not be expected in the Royal Academy. What would become of our Private View Day, when people come to look at the dresses and hats, the pictures being but a secondary consideration? With top-lighting the floor is lighted, but the pictures themselves are not. When Mr. Norman Shaw rebuilt the schools in the Royal Academy we had to teach the students in the Exhibition Galleries, and experienced great difficulties, for the rooms being very high and the upper part of the walls receiving the strongest light the model and paintings were lighted by the reflection of the walls principally. In the beginning of the eighties I remember a new exhibition in Paris lighted with a glass roof, having a brilliant red carpet, which coloured all frames and pictures with a red reflection. In building a museum the great question to consider is how to show the exhibits to advantage; for that one requires the side-lighted rooms and the top-lighted rooms. As a matter of fact, painters do not use top-lights to paint: they would never make a successful portrait if they did, the black shadows under the nose would not be pleasing; besides, a top-light is not the light we are accustomed to live in. In the Ryksmuseum Cuypers aimed at building a temple for the fine art of his country: a church; and it was to enshrine the masterpiece of the greatest master of Holland. But the great masterpiece that looked so big in a small room looked but small in a big room. When Cuypers was asked "How could you think of putting the picture there?" he answered "I thought there was never anything big enough for Rembrandt." Pictures have their claims, and we artists have the right to claim that the pictures should be shown under the most favourable circumstances. For instance, there was a picture by Van der Helst, painted for the Town-hall of Amsterdam, where it remained until it had to go to the Ryksmuseum, where, however, it was utterly lost. Being painted for a side-light, the part near the window was highly executed, while the other part was treated very broadly. It answered the purpose splendidly while it occupied the position it was intended for, but seen under different conditions, the charm of the picture was gone. Rembrandt's "Night Watch" was painted for the Scutter's Room, where there was only a side-light, and where day in and day out the Scutters came and drank their beer and smoked their pipes and toned the thing down to such an extent that people call it the "Night Watch,"

although Rembrandt had intended it for sunlight. These are very difficult questions to consider, and when an architect is asked to build a museum he is in a very trying position, because he has so many problems to solve. And not the least difficult is the question of fire-proofing the building. I remember when fire-proof buildings began to be the fashion—somewhere in the fifties, a fire-proof building was erected for the deeds, papers, and documents of the Government of the Province of Antwerp. The building was nothing but brick and iron; the floors were all perforated iron, and there was nothing apparently that would catch fire. Yet somehow the place caught fire, and all the papers it contained were consumed. The building, however, remained intact; you cannot make your pictures fire-proof by building a fire-proof building; and I quite agree with our lecturer that no people should ever inhabit a museum. The building should be isolated from other buildings, so that there should be no danger from fire, and the watchmen should come in when the public leave, and leave when the public come in. In conclusion, I can only say that I am sincerely grateful for what I have heard to-night, and I ask you to join with me in a hearty vote of thanks to Mr. Weissman for the interesting and valuable Paper he has given us to-night.

MR. J. D. CRACE [*H.A.*]: It is with great pleasure that I second this vote of thanks. I think we are greatly indebted to Mr. Weissman for coming this distance to put before us some of the complicated problems which arise in building a picture gallery. If nothing else should be done than to lay stress upon the fact that all pictures are not equally well seen by the same light, I think his journey would not have been in vain. The question of the distribution of large and of small pictures under different circumstances is one which cannot be too strictly insisted upon, and the great difference of tone in the painting both of the early pictures and of the Italian Renaissance pictures, and between those and the Dutch school, should alone entitle them to be considered under entirely different conditions. Mr. Weissman has also given us a very useful hint in that connection with reference to the framing of the pictures of the Dutch school—the Dutch interior—pictures of such a class as that of Pieter de Hooghe or David Teniers. The whole tone and colour in those pictures improves infinitely by the employment of the black frame, which the Dutch school usually employ. A quiet black frame with a small amount of gold to separate the picture from the frame had exactly that effect upon the picture which was most valuable. One of the great charms of the Dutch school is the extraordinary knowledge of interior and atmospheric perspective to which no other school ever attained, and that atmospheric perspective has infinite advantage from the use of the black frame which purifies the colours and renders the more delicate qualities of the perspective far more perceptible. Another point mentioned incidentally was in connection with the floors of galleries. I think it must have been within the memory of many in this room that when Edward Barry built the first portion of the new National Gallery he put oak floors with a white marble margin near the walls. The gallery, I think, had not been in use more than two years before it was found necessary to remove those bands of white because the lower part of the pictures on the side opposite the spectator invariably had a strongly reflected white band across the picture. They were accordingly removed. But the great value of Mr. Weissman's Paper is, that it brings into concentrated form the experience of one who has visited a great many of the Continental galleries, who has himself had to face the problems, and who has brought before us a comparison of the various difficulties that arise, and his views of how those difficulties may be met. I join most sincerely in the vote of thanks, and in reference to Mr. Weissman's ability to meet such problems I can only say that it appears to me—and I have had the great pleasure of having Mr. Weissman in my house for a few days—that although I have endeavoured to put before him something that I thought he would not know I have invariably been unsuccessful; he has always known more than I have ever been able to put before him.

SIR ASTON WEBB, R.A., *Past President*, who was called upon by the Chairman, said: I should not like to go away without expressing my thanks to Mr. Weissman for coming over here and giving us so interesting and illuminating a Paper. I have enjoyed every portion of it, and I find myself very much in agreement with what the author has said. I must say in passing that I think painters are sometimes rather difficult to please regarding the galleries they wish their works to be exhibited in, and I think we, as architects, ought to endeavour as far as we can to bring together the somewhat diverse views we hear from painters as to how their works can be best shown. If I may venture my humble opinion, I think that a top-light may be made becoming light for pictures. Of course Sir Lawrence Alma-Tadema speaks with great authority, and has been brave enough, if I may say so, to be his own architect, and to build a studio with a single window, very high up, and which undoubtedly is a beautifully lighted room, showing pictures to the best possible advantage. I think we as architects ought to pay Sir Lawrence that tribute, although we cannot approve of a man being his own architect as a rule. Mr. Weissman referred to the question of circulation in a museum, which is really of very great importance in picture galleries and museums. It is rather a tiring thing going through and seeing an enormous number even of the most beautiful things, and it is very annoying to come to a sort of dead-end and have to go all back again the same way. However large or

however small a museum or picture gallery is, there should be some way of getting round without having to traverse the same ground twice. With regard to fire protection it seems extraordinary how it could ever have been imagined to be a protection for a public building to have a man and his wife and family safely in bed in the top of the house all night long, and to suppose that was any protection from fire or burglary to the building. The Government have wakened to that, and in no case now are caretakers' rooms provided, but watchmen go round at stated intervals, and checks are provided to show that they really have made their rounds at the appointed time. The practice still continues, however, in a large number of municipal buildings all over the country, and the caretaker and his wife are carefully provided for in most competition conditions. If there is any way of setting light to a building I think that the caretaker is about the best. With regard to the lighting of picture galleries, Mr. McKim, of New York, is building a large gallery there for Mr. Pierpont Morgan. It is a high building with high side-lights —large semicircular-headed side-lights. That is not only for pictures, but for decorative works, and Mr. McKim has founded his method largely on the Musée Décoratif in the Louvre, which is also used for decorative works, and is considered to be among the best lighted rooms in Europe. An American committee have lately been traversing Europe seeing the whole of the galleries, and they have come to the conclusion that the best gallery for the exhibition of works of art is an old Italian palace; but as that is not generally available, I am afraid it does not advance matters much. It seems to me, supposing you cannot have a side-light—and there is no doubt that in a building with a large number of galleries to obtain a side-light is a great difficulty—that the lantern light is better than the skylight. That is to say, the side-lights are glazed and the roof is a solid ceiling. As Sir Lawrence Alma-Tadema says, the side-lights on the one side sufficiently light the opposite wall, and the other lights the other. That gives you very much the effect of a side-lighted room. Christie's rooms in King Street are lighted in that way, and I believe even painters have thought that to some extent those may be considered satisfactory. With regard to the dimensions of galleries, I believe that 32 feet is considered a very good general width, and I see that is something like the average of Mr. Weissman's dimensions—viz. from 25 to 36 feet. I had occasion to go and see a very large number of galleries all over Europe, and I found 32 feet to be the general width, with a height of about 20 or 22 feet, and if side-lighted, about half the one wall glass, with the light carried right up to the ceiling; if it is top-light, an opening in the ceiling about half the width of the ceiling; and I believe the American committee just referred to have come to something like the same conclusion. It seems to be, at any rate, something to go upon. Of course the light in different countries necessarily to some extent affects the proportion of these lights. The question of blinds is a most difficult one. The French, instead of having a blind which covers the whole light, and which affects the light very much, have adopted the method of trying simply a vertical blind hanging down the centre of the gallery. That is an extremely ingenious arrangement, and seems in many ways to effect the object. This long blind does not affect the light in the gallery generally, but it protects the pictures from the direct sunlight, which is really what a blind is wanted for. I am sure we should all agree with Mr. Weissman that the decoration of galleries requires to be treated with great reserve, and that the architect of the building should not show himself much in the galleries. The galleries are for works of art, and the less obstruction in the way of architectural decoration the better. We have an example in this room. We have the greatest difficulty in properly showing the beautiful pictures painted for us by our painter friends owing to various architectural obstructions which prevent the pictures being hung to advantage, and when our painter friends come here we always feel we ought to apologise to them for having to hang their work so badly. A gallery ought to have no pilasters, no ornamental features on the walls at all; the decoration should be supplied by the works of art which are exhibited in it. The same applies to the floors: in some cases there are mosaic floors very elaborately designed, and very beautiful in themselves, but one sees all the design over again in the pictures or glass cases, which is a very undesirable thing. There is no doubt that wooden floors are the best, reasonably polished. I remember in one of the Continental galleries slipping on the highly polished floor and very nearly crashing through a masterpiece. I think the slipperiness of many of these floors is really dangerous both for the visitors and for the objects they are looking at. Mr. Weissman says that tapestry is not good as a background for pictures. That, I suppose, is generally true; but anyone who has been at Hardwicke and seen the wonderful rooms there with the portraits against the background of the famous tapestry collected by Bess of Hardwicke, which has toned down to a natural quiet colour, must admit that under those circumstances tapestry is very hard to beat as a background. The time is too short to go into the subject at any great length, but it is a most useful Paper that Mr. Weissman has given us. He has seen a large number of museums himself; he has carried out buildings of this class, and therefore he has had full experience; and when a gentleman thus equipped comes so far to tell us his experience I am sure we all feel greatly indebted to him, and will tender him our most grateful and hearty thanks for the information he has placed at our disposal.

MR. H. H. STATHAM [*F.*]: I would like to draw attention to one thing with regard to light which has not been touched upon this evening, and which is illustrated in the National Gallery. I quite agree with Sir Aston Webb that the best light is a lantern with upright lights at the sides; but you find some rooms in the National Gallery are also very well lighted with a sloping skylight. The fatal mistake is made in those—and there are several of them—that there is a double glazing; there is the flat glass in the ceiling and a sloping skylight over it. If you go into one of these rooms you have an unaccountable feeling that the light is dingy; you cannot see things properly; and as soon as you come out of it to a room lighted with single glass, you feel the difference at once; you have a clear atmosphere, and that is a very important point to guard against. I was rather surprised to hear it said that side-light was generally preferred for sculpture, because I heard the contrary opinion implied by an eminent sculptor many years ago, and it has remained in my memory. I went with a party of people to see the bas-reliefs at the Albert Memorial when Armstead was at work on them, and we made some very complimentary remarks; but Armstead checked us by: "Well, gentlemen, you must remember you are seeing this work in a very flattering light," and the flattering light was that he had a screen which shut out everything except two feet wide at the top. So I gathered from that that the sculptor considered that a top-light was best for his sculpture, and certainly I have never seen sculpture look so well in an exhibition as it does in that great top-lighted central court at the Palais des Beaux-Arts in Paris. A word was said about the Dutch frames and their very quiet effect; but I think if you have these very quiet wood frames you must have a very subdued neutral tint on the wall. And here there comes in the value of the gold frame, the great harmoniser. I was quite startled when the Grosvenor Gallery was first opened to see the strong crimson covering they had on the wall; but when you saw the pictures there with their gold frames the crimson covering had no effect upon them. Gold is a marvellous separator and harmoniser; whereas I am quite certain if you put pictures with only a narrow wooden frame on that crimson wall many of them would be half-killed. That appears to me to be the great value of the gold frame, which ought to be kept in mind. I do not know that painters will agree with me, but that is my strong impression—that the great difficulty of having a wall colour to suit every picture is done away with to a great extent by the harmonising effect of a gold frame.

MR. ALFRED EAST, A.R.A. [*H.A.*]: It is interesting to a painter to hear that architects are paying so much attention to the claims of the artist, because when I look on our modern domestic architecture I must admit that I find architects pay no attention, or scarcely any, to the claims of the artist. The architect does not consider that the man who is to live in a modern house is to have pictures, or perhaps books, or statuary. I am speaking now, of course, broadly; there are exceptions, I know, where that is carried out. It is refreshing to hear Mr. Weissman tell us of his experience of the care and thought which have been given, according to his experience, to the best lighting of pictures. It is a very difficult question—an extremely difficult question—because the sense of scale comes in. I mean to say, a large gallery with small pictures looks most awkward, and it is equally difficult to have a small gallery with large pictures. It appears to me that the architect, before he can build a gallery which exactly suits, ought to know what it is to contain, and then I think he could do the work with a reasonable chance of success. Of course, we know that climatic difficulties are to be considered; the galleries of Italy with the brilliant light surely do not require so much glass space as we require in England; and in a variable climate like ours we see the brilliant sunshine shining on our pictures, while on another day all is in gloom. We want some means by which we can get a more even light. We also want, particularly in reference to the old pictures, a very even temperature. The matter of temperature is an extremely difficult one, and I think it is one which we have not perhaps quite sufficiently considered, because, as you know, a canvas that expands on a damp day is likely to shrink on a dry day, and that constant expansion and contraction must be very bad for the picture. They ought to be kept with an equal temperature as well as with an equal quantity of moisture in the air. That is a point of view from a painter; but I should not wish to criticise for a moment Mr. Weissman's Paper. I have learnt a great deal, and I have seen more of the difficulties in this great question of lighting public galleries since hearing the Paper, and I have the greatest pleasure in supporting the vote of thanks.

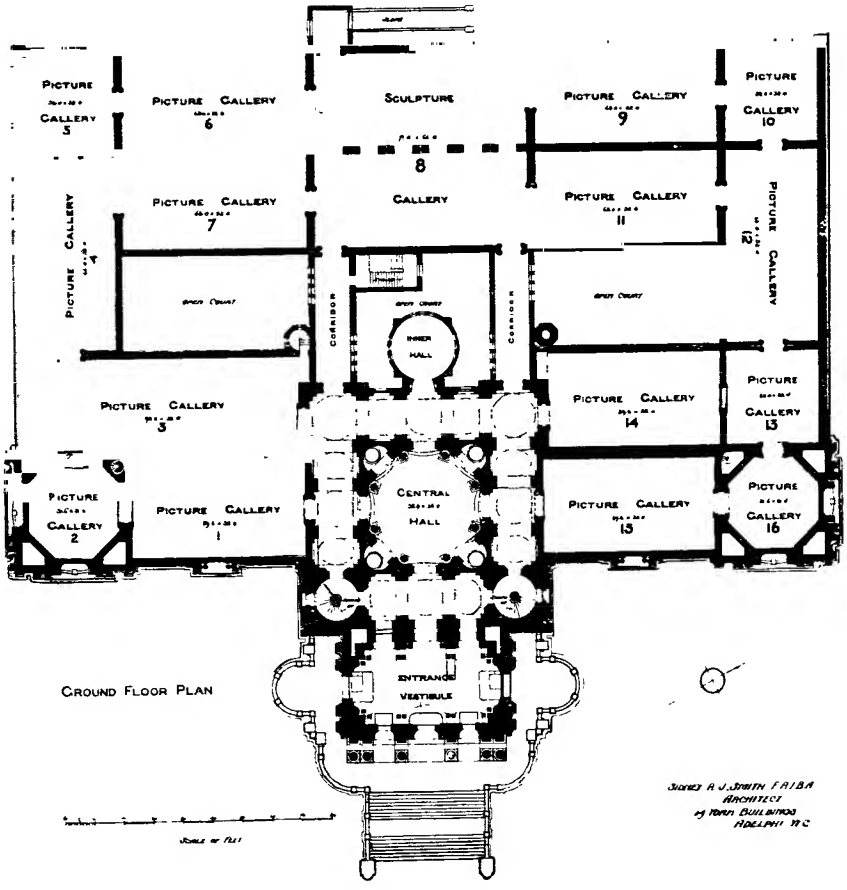
MR. REGINALD BLOMFIELD, A.R.A. [*F.*]: I know nothing about this subject, but I have learnt a great deal from Mr. Weissman's Paper, which I think has been quite invaluable as putting one view in front of us. It is quite evident that this question simply bristles with difficulty, because, as we have heard from Mr. East, we architects really make no provision for the painter at all, and he pointed out certain very interesting facts, one being that a canvas shrank under certain conditions. I argue from that that when we plan our houses one of the essential things to consider is what effect our house will have on their pictures; and we ought to regulate our heating systems so as to have a good effect on their canvases. There are certain points of this sort which we architects, if we are to justify our place among artists, must consider very care-

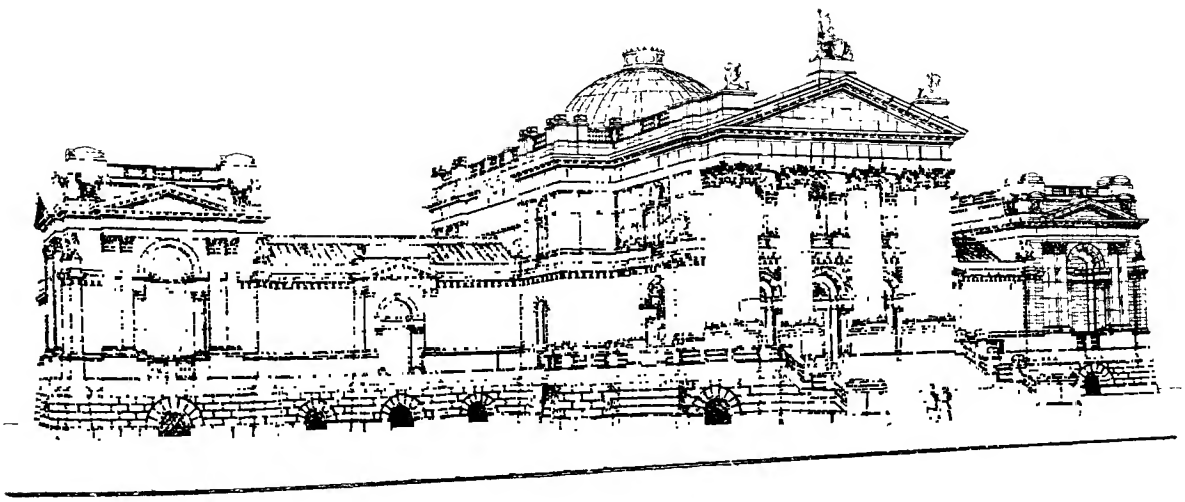
fully. We have learnt a very great deal from Mr. Weissman, and I need hardly say how grateful we all are to him for what he has told us from his own experience, and it is evident that he knows every inch of his subject. We also heard a great deal of information from another expert—Sir Aston Webb—who, I suppose, knows more about galleries than any other man in England. But I think to a certain extent the honours of the evening rest with the painter, Sir Lawrence Alma-Tadema, because he said the point that has to be considered is how the painter paints his picture. Of course if a painter paints his picture in a gallery and for a gallery and for nothing else, by all means; but I do not take it that that is what painters do do, and certainly if they do it now it has not been the history of painting in the past; and I think it will be the experience of many of us that by far the most satisfactory galleries and exhibitions we have ever seen have not been galleries or exhibitions at all, but have been collections in private houses. I have seen, talking at random, at Hampton Court the pictures hanging nicely and quietly on the walls just as one would like to see them. I was over at The Hague, and there, again, I saw a building never intended for a gallery at all, but the pictures all perfectly shown; and then there is the Ducal Palace at Venice. What it comes to is, that there are two ways of dealing with this question. One is of enjoying the pictures and dropping architects altogether, and, talking merely as a civilian who enjoys pictures to the best of his capacity, I find that I never enjoy pictures hung in a gallery, but I do enjoy them tremendously when they are hung in a place for which they were painted. We have to bear this in mind with regard to the whole question of museums and galleries, that they are a derogation from art altogether; they are putting these pictures, articles of sculpture, and other things in the wrong place, and not where they were intended to be placed, so that we have to consider that a gallery is merely a concession to this insatiable thirst for scrap-book knowledge, a good deal of which we should be much better without, certainly as artists. However, that is by the way: I am not talking as an architect, but as an ordinary man who knocks about and sees and enjoys things that he likes. Talking as an architect, I cannot say how grateful we are to Mr. Weissman for his admirable Paper to-night.

THE CHAIRMAN: In the presence of so many experts it is not for me to add anything to this discussion. I have gathered, I think, perhaps a good deal for myself, and I think it concentrates itself into this, that a picture gallery should be very simple in plan so that you can find your way about it, and your way out of it; and I have also learnt that the decorations should be kept quite simple. That seems absolutely imperative. Sir Aston Webb pointed out how bad this room is; taken as an example, it would be found what we ought not to have in a picture gallery. The lighting question is a most vexed one, but after what Mr. Blomfield has said we must realise that a picture gallery is not quite the most advantageous place to see a picture in, and perhaps if picture galleries were designed not on too hard-and-fast lines, and if some of the rooms had top-lights and some side-lights, if some of the rooms were large rooms for large pictures and some were small rooms for small pictures, the hangers if they had discretion—which we may assume they might have—would perhaps put pictures which would look best in large rooms in large rooms, and the pictures which looked best with top-lights in top-lighted rooms, and so on. I have often wondered whether square rooms were quite the right rooms for picture galleries; you get awkward corners, and the public when they are in galleries get congested in these corners. Hospital designers have tried circular wards; why should not picture-gallery designers try, I do not say circles, but perhaps hexagons, or something of that sort? I am sure we are indebted to Mr. Weissman for his most excellent Paper and for his collection of plans, and I will ask you to pass the vote of thanks that has been proposed by Sir Lawrence Alma-Tadema and seconded by Mr. Crace.

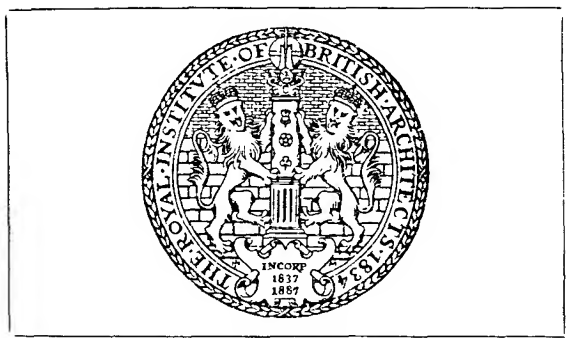
MR. WEISSMAN, in responding to the vote of thanks, said it was a great pleasure to him to hear that his lecture had not only been understood, but also that the gentlemen who had spoken had been able to learn something from it. It was not intended to be in the nature of instruction; he only wished to give his experience; and he was glad to hear the experience of others present, especially Sir Aston Webb. He thought perhaps he had been misunderstood in his use of the term "top-light" in connection with the City Museum, Amsterdam. What he meant was the lantern light which Sir Lawrence Alma-Tadema had mentioned.

By the kindness of the architect of the Tate Gallery, Mr. Sidney R. J. Smith [*F.*], we are able to give the ground floor plan and elevation of that building. Mr. Weissman mentions the effective lighting of the Tate Gallery, and Mr. Sidney Smith states that the rooms were purposely kept low and plain. "Top space," he says, is unnecessary, and if the light is high, it is too far off for the pictures to be seen to advantage.





THE NATIONAL GALLERY OF BRITISH ART, MILLBANK.



9, Conduit Street, London, W., *27th April* 1907.

CHRONICLE.

A Building Court for London [p. 414].

The Times of the 6th inst. published the following letter from Mr. Delissa Joseph [*F.*] discussing the proposals of Mr. John W. Simpson [*F.*] for a Building Court for London [*see The Times*, 29th March, and Journal, 13th April, p. 414]:—

Sir,—The interesting letter which appeared in *The Times* on Good Friday will not, I hope, be left unnoticed by those who, like myself, have to deal daily with those matters affecting building law in London referred to by your correspondent.

His chief proposal is to found in London a Court on the lines of the Dean of Guild Courts of Scotland, where the procedure is somewhat as follows:—

Before buildings are commenced plans are laid before this Guild Court, which decides questions of construction, foundation, ventilation, mutual support, party walls, drainage, and the application of local by-laws. All questions affecting the relation of one building to another are adjusted by the Court. It settles also the question of light, reserving to each party ample space for light, and preventing either party from prejudicing the other in that direction.

But it is very doubtful whether the more complex conditions of London building would be usefully dealt with by a special Court. If the duties of such a Court were limited to, so to speak, "passing sentence" upon plans submitted, it would be depriving the London County Council and the local authorities of the administration of the Acts affecting building and public health, without any apparent advantage to building owners, because both the Council and the local authorities are administering the very difficult Acts which Parliament has appointed them to administer with common sense and in a reasonable spirit, and it is difficult to realise that a Judge, with four assessors, could possibly deal, with adequate expedition, with the mass of applications which at present taxes the administrative enthusiasm of the Building Act Committee of the London County Council and its highly efficient technical staff; while, if the proposed new Court is to be an appellate Court only, it would be undertaking duties which are already largely covered by the powers of the existing tribunal of appeal.

Therefore it appears to me that no adequate case has been made out for transferring the administrative powers of the Council to a specially-constituted and costly Court.

On the other hand, the principle of a tribunal of appeal for matters connected with building has already been adopted by the Legislature, both in the London Building Act of 1894 and the Amendment Act of 1905, so that where building owners are dissatisfied with the decision of the London County Council in administering these Acts they can, if they so choose, take many of the points of difference to the tribunal for decision. This tribunal consists of an architect, a surveyor, and a barrister, and has, by its careful and discriminate adjustment of points of difference, secured the confidence of all practising architects in London.

But the range of its powers as a Court of reference is somewhat limited. Under the Act of 1894 it can adjudicate on lines of building frontage, the laying out of streets or ways for carriage or foot traffic, the re-arranging of cleared areas by laying out new streets, the determination of the front and rear lines of buildings, on the building of dwelling-houses on low-lying land, and on sky-signs; while under the Act of 1905 it can adjudicate on questions affecting the means of escape in case of fire from new and existing buildings, and from upper stories over projecting shops, access to roofs, rules for living rooms over premises used for storage of inflammable liquids, and the conversion of buildings. The direction in which one would desire to see development would rather be in enlarging the powers of appeal to the existing tribunal by giving it power to adjudicate on points between building owners and local borough authorities, upon questions under the Public Health Acts, and upon questions of light and air.

While it is true that the law with regard to light and air has been greatly simplified by the House of Lords' decision in the historic case of *Home and Colonial Stores* v. *Colls*, which was fully reported in *The Times*, and although my own experience satisfies me that most light and air questions can be amicably adjusted by negotiation and without litigation, the fact remains that the absence of definiteness with regard to the whole question is frequently a deterrent to building owners from embarking in new enterprises; and there is little doubt that if such issues between neighbours could be referred to the tribunal of appeal, with powers enlarged to receive such cases, a fruitful source of anxiety to building owners would be removed without putting the country to the expense of establishing a new and special Court for building cases.

The conclusions I therefore come to, founded upon a wide and varied experience, are that the present administration of the Building Acts is being equitably conducted by the London County Council; that, where points of difference arise between the Council and building owners, reference to the tribunal of appeal is provided for on most of the important issues, and that the work of this tribunal is performed with great circumspection; that no adequate reason exists for the establishment of an independent Building Court, either administrative or appellate, and that all that can be reasonably asked for is the enlargement of the existing powers of the tribunal of appeal, so as to include within its scope issues under the Public Health Acts, and questions of light and air between adjoining ownerships.—I am, Sir, your obedient servant,

Delissa Joseph.

Public Library Planning.

To the Editor Journal R.I.B.A.—

Dear Sir,—If Mr. Myrtle Smith was present at the meeting on the 28th ultimo he will recall that I quoted the 2 ft. 4 in. at Chelsea as the minimum spacing for an indicator system, as contrasted with Mr. Duff Brown's minimum of 5 ft. 6 in. for open access. No one can doubt that the latter is the minimum, and is almost invariably exceeded in practice. At the same time, if Mr. Myrtle Smith has been on the staff side of the counter at Chelsea on a busy Saturday evening—the time to see the weak places in any library—he may have remarked

that the lending department works smoothly and quickly even with this spacing. In any event, my point that the area required in an open-access library is almost double that with an indicator remains uncontradicted.

This cannot be said of my remark that Brighton had abandoned open access for the other method, which was denied by inference; but, since speaking, I find that I was right, and I see no reason to qualify my contention that any endeavour to convince architects that the world of librarians has virtually made up its mind in favour of the open-access system is futile and misleading.

While the law remains as it is at present, no town in which the penny rate produces less than £300 can properly be advised by its architect to have the luxury of what is euphemistically termed a "safeguarded" open-access system.

Yours faithfully,
E. GODFREY PAGE.

R.I.B.A. Colonial Examinations

The R.I.B.A. Special Examination to be held at Johannesburg next November will take place under the auspices of the Transvaal Institute of Architects. The following members have been appointed by the Transvaal Institute as a committee to conduct the examination: Messrs. W. Leck [*F.*], Herbert Baker [*F.*], and G. A. H. Dickson [*F.*], *Chairman.*

Appointments of "so-called Architects."

A number of architects practising in Dublin and the provinces of Ireland in connection with the erection of houses under the Labourers Acts have addressed a letter to the Local Government Board complaining of the nature of many of the appointments of "so-called architects" now being made in many parts of Ireland in connection with schemes under the Act.

When [says the letter] the Bill was before the House of Commons a clause was proposed by the then Chief Secretary, Mr. Bryce, and passed without any opposition, adopting the principle that persons appointed to fulfil the responsible duties of architects for the carrying-out of work to the value of four millions sterling of public money should be possessed of at least *some* qualification, experience, and fitness. Later, when the Board came to define this clause in more detailed fashion, the same principle was adhered to. Since then, unfortunately, the spirit of this legislation has been more honoured in the breach than in the observance, and qualified architects are thereby placed under a serious disadvantage. Prior to the passing of the recent Act matters were bad enough; but since then the evil has been enormously increased, because every unqualified person appointed by district councils whose appointment is sanctioned by the Board now receives in that sanction what is practically a Government diploma. As to the character of too many of these appointments it is superfluous for us to enlarge upon here, as the Board must have much material for information at hand; but we respectfully submit that, as the evil result of laxity in the interpretation of this most proper and necessary clause is not confined to work done under the Acts, but automatically extends to every department of architectural and engineering practice, the Board should rigidly adhere to the spirit as well as the letter of the safeguarding clause, and we, with confidence, appeal to them to exercise the powers which the new Act has conferred upon them.

The Condition of St. Paul's.

The report of the committee appointed at the instance of Mr. Mervyn Macartney to investigate the condition of St. Paul's Cathedral has got into the press—prematurely, it seems, and without authority. *The Times* of the 22nd inst., discussing the views of the Committee, says that it will be admitted that individually and still more collectively Sir Aston Webb, R.A., Mr. John Belcher, A.R.A., and Mr. T. E. Collcutt are entitled to attention. In their view, the proposed pathway of the sewer projected by the London County Council is near enough to involve risks to the Cathedral. They have reported to the Dean and Chapter to that effect; and the latter, along with the Archbishop of Canterbury, the Lord Mayor of London, and the Bishop of London, as trustees of the fabric, have naturally urged upon the London County Council that, in spite of the given Parliamentary permission, the proposed tunnel should be diverted to a greater distance from the Cathedral. *The Times* article goes on to say: "There is nothing new in the difficulty which the County Council is now carefully considering. Any one who has charge of large and ancient buildings, near which 'tubes' of various sorts are to pass, is familiar with the conflict of opinion that at once ensues as to the probable effect of the tunnel below upon the building above. You call in your trusted architect, who makes an appointment with the engineer of the particular undertaking. The latter insists that the weird advance of his Greathead shield introduces no cause of instability into the region through which it passes; indeed, the structure which goes in, he says, is really firmer than what is taken out, and, if we come across any unexpected flow of water, we of course proceed under compressed air. But the architect looks up to the topmost pinnacle of the temple, and his experience knows something of the footings upon which so vast a fabric must rest; his reply to the engineer is to question, not the latter's desire to make things as sure as he can, but his ability to make them as sure as he ought. It is idle to say that there is not a doubt in the case. This being admitted, there are two possible views. It may be said that, if the mere sanctuary happens to stand near the pathway of a main sewer, the public still requires the latter and the sanctuary is not indispensable. It will be time enough to discuss this proposition when other pathways have been tried and found impossible. And, even then, we are much mistaken if the other view does not prevail—namely, that St. Paul's, apart from the sacred uses which it serves to-day with a solemnity

and a sufficiency without parallel in its long history, is a unique and priceless triumph of English art, that there is some doubt whether the construction of this tunnel is consistent with the Cathedral's stability, and that St. Paul's is entitled to the benefit of that doubt."

Architectural Decoration.

The Council of the Society of Arts are offering, under the terms of the Stock Trust, a gold medal, or a prize of £20, for competition amongst the students of the Schools of Art of the United Kingdom at the Annual Competition to be held in 1908. The prize will be awarded for the best original designs for an architectural decoration, to be carried out in painting, stucco, carving, mosaic, or any other process. This architectural decoration is to be for the side of a room or a hall, a ceiling, the apse or side of the chancel of a church, or any suitable part of the interior of a building. The designs must be on imperial sheets. Each set must consist at least of a coloured drawing to scale of the whole design of decoration and two coloured drawings of details on separate imperial sheets. Mere patterns or sketches of details, without the mouldings or borders necessary to make up a complete decorative scheme, will not be taken into consideration. The designs must have been made between 1st April 1907 and 31st March 1908.

Street Advertising in Berlin.

The advertisement hoarding, which forms so unsightly a feature o our thoroughfares urban, suburban, and rural, but which we have come to accept as one of the incidentals necessary to existence, appears to have no place at all in Berlin streets. The municipal or police authority of that city have such matters entirely under their own control, and open-air advertising of every kind is hedged about with all manner of restrictions. The *Journal of the Society of Arts* has the following interesting notes on outdoor advertising in Berlin:

Bill-boards are absolutely prohibited, but in place of such unsightly objects, public advertising is confined to a system of neat pillars or columns on the edge of the pavement at the principal street corners. These round hollow columns, called "Litfass Saulen" after the originator, are built substantially of iron and wood, about twelve feet high and three feet in diameter, the exterior having an advertising surface of from eleven to twelve square yards. The pillars are used principally for the advertisements of theatres and other places of amusement, for the announcements of papers and periodicals, and official notices. They are a conspicuous feature of Berlin street life, and are consulted regularly by theatre-goers, &c. Much artistic ability is displayed in the arrangement of the differently coloured posters, which are mostly in the form of reading matter, and not pictures. According to the American Consul-General in Berlin, that city advertised in 1901 for bids for the privilege of erecting and using these advertising columns within the limits of the city for the term of ten years, and the successful tenderers are paying an annual rental of £20,000, payable quarterly. According to the terms of the contract, the city covenanted not to grant a similar licence to anyone else. Newspaper kiosks, however, are permitted to have advertisements on their walls, consisting of wood, tin, iron, glass, &c. At that time there were seven hundred columns already erected, and the number was to be materially increased. The contractors were to erect them at their own cost, but both as to design and location the approval of the police authorities was to be obtained, and they at once became the property of the city, all repairs and proper maintenance being performed by the contractors. The city has the right to use the interior of the columns for various municipal purposes, such as storing utensils for street cleaning and sand for use in the streets, for switch apparatus for public electric lights, and meters for electric street railways, &c. These columns, therefore, are provided with doors and locks, and the contractors have to keep the interiors properly ventilated and free of moisture. Each column must also have distinctly marked on the upper portion the number of the city district, and of the police station, the nearest sanitary station, the nearest accident station, and the nearest station. Delay in any payment, or violation or neglect of any condition on the part of the contractors, renders them liable to a fine up to £50, and may even cancel the lease. A bond for £2,500 was given for the fulfilment of the terms of the contract. The contractors have the exclusive right to use these places for advertising purposes, subject, however, to certain conditions. The rates for advertising, which are regulated by the Berlin authorities, are according to space occupied, varying from about fourpence-halfpenny to two shillings and sixpence per day, the latter being for a space of nineteen by twenty-nine inches. For placards larger than that, the charges are in proportion. All placards must be approved by the police authorities before being exhibited. The contractors must keep a record of applicants for advertising spaces, and unless in cases of great urgency the applicants receive attention in their order. The city authorities have the right to demand at any time the free posting of such official notices as may be necessary, and for this purpose a special shade of red paper is used, and no private advertisements may therefore use that particular colour. The posting of bills on the pillars must always be done at such time as to cause the least possible interference with the street traffic, and is, therefore, usually done at night. Besides these "Litfass Säulen," the city of Berlin has also leased thirty "Urania" columns for advertising purposes for the annual rent of £780. These columns are somewhat more elaborate than the others, being solidly constructed of iron; the height is the same, but the interior is not used by the city. They generally contain a large clock, various local official notices, and the advertisements slowly revolve behind glass windows. No promiscuous filling up of scaffolding on new buildings with advertisements is permitted in Berlin. The owner of a building may paint any exposed parts of it with signs, or hang out signs, but permission must first be obtained from the police. At the present time multi-coloured, changing, electrically illuminated signs on the tops and on the fronts of buildings and stores are very much in vogue, so that the business part of the city at night time is, here and there, dazzlingly brilliant.

British School at Rome.

The following extract from the Rules of the British School at Rome respecting the status, qualifications, and responsibilities of Students and Associates of the School is printed here for the information of intending students, &c.:—

23. The Committee may admit as Students of the School—

(1) Holders of travelling fellowships, studentships, or

scholarships at any University in the British Empire.

(2) Travelling Students sent out by the Royal Academy, the Royal Institute of British Architects, and other similar bodies.

(3) Other persons who shall satisfy the Committee that they are duly qualified to be admitted as Students.

24. No person, other than a Student of the British School at Athens, shall be admitted as a Student who does not intend to reside at least three months in Italy. In the case of Students of the British School at Athens an aggregate residence of four months at the two Schools will be accepted as alternative to three months' residence at the School at Rome.

25. Students of the School will be expected to pursue some definite course of study or research, and to submit to the Director in each season a report upon their work for the information of the Committee.

26. Persons wishing to become Students are required to apply to the Secretary. They will be regarded as Students from the date of their admission by the Committee to 1st October next following; but any Student admitted between 1st June and 1st October in any year shall continue to be regarded as a Student until 1st October of the following year.

27. The Committee may elect as Honorary Students such persons as they may from time to time deem worthy of that distinction, and may also elect as Associates of the School any persons actively engaged in study or research in Italy.

28. Honorary Students, Students, and Associates shall have a right to use the Library of the School, and to attend all lectures and public meetings held in connection with the School, free of charge.

Students of the Institute joining the Roman School are advised to note carefully the following regulations respecting free *permessi* to Italian museums, &c., which can be obtained by the Director of the School for Students and Associates only:—

(*a*) For Government Museums throughout Italy.—An unmounted photograph of the applicant, measuring not more than $3\frac{1}{4}$ by 2 inches, with the applicant's full name clearly pencilled on the back, should be posted to the Secretary, British School at Rome, 22 Albemarle Street, W. This should be sent three weeks in advance if the applicant desires his *permesso* to be delivered in England or at an address in Italy other than in Rome; otherwise a fortnight is sufficient. It should be accompanied by a clear statement of the address to which the *permesso* should be sent; otherwise this will be retained at the School in Rome till application is made.

Note.—If it is desired to photograph in a Government Museum it is necessary to state what objects it is desired to take.

(*b*) For Municipal Museums in Rome.—For formal *permessi* the same regulations hold good, but the Director can generally secure admission for Students for a short period, without a photograph and with two or three days' notice, to any individual museum.

(*c*) For the Vatican.—(i) Museum of Sculpture (including the Lateran Museum). The same notice as for Government Museums is necessary, but no photograph is required. (ii) For other parts of the Vatican no *permessi* are needed except for drawing, &c., for which the same notice as for Government Museums is necessary. No photograph is required.

The Travelling Card of the R.I.B.A. is not accepted by the Italian authorities in lieu of a properly stamped application.

Representations having been made as to the inconvenience suffered by travelling students through not receiving their *permessi* in time, Mr. K. Raleigh, Assistant Secretary of the School, writes:—

"To avoid this delay in future, it would be well to make it quite clear to your Students that on joining the Roman School they ought to apply for *permessi* through the office of the School, 22 Albemarle Street, in good time before starting for Italy. We keep the stamped paper here for them to write their applications on, and, if they do not care to call, this stamped paper can be sent them and also a model of an Italian letter of application. If these applications are sent to Dr. Ashby in good time, he will be able to have the *permessi* ready for the Students' use on arrival."

The Assouan Dam and the Philæ Temples.

Sir Wm. Garstin, in some notes accompanying a despatch from the Earl of Cromer respecting the Water Supply of Egypt, says that when many years ago it was decided to build a dam at the Assouan cataract, thus forming a reservoir which involved the partial submersion of the Philæ temples, the reproach was brought against the Department of Public Works that it had selected this particular site without any investigation of the Nile Valley to the south of Wadi Halfa. This reproach can no longer be brought against the Department. A credit was granted some two years ago for a systematic and detailed examination of the entire cataract region from Shabluka to Wadi Halfa. The work was carried out under the direction of Captain Lyons, head of the Egyptian Survey Department. The investigation has proved conclusively that except at the cataract of Assouan no satisfactory site for a dam and reservoir exists in the Nile Valley. The Egyptian Government have consequently decided to adopt the recommendation of Sir Wm. Garstin to raise the Assouan Dam by some twenty-three feet, which will enable more than double the present quantity of water to be stored. Some idea of the enormous benefit to the country resulting from the dam and its enlargement may be gained from the fact that the sale value of the land will be increased by £E28,312,900, and the rental value £E2,022,350.

As regards the preservation of the monuments affected by the proposed works, Sir William says that every effort will be made to preserve them and that the Government will not grudge the funds necessary for such an object. The foundations of the temples on Philæ Island have been consolidated by underpinning them, carrying the masonry everywhere down to the solid rock. Their stability, says Sir William, is now assured; they are safer than they ever have been since first constructed, and far safer than the majority of the monuments existing in other parts of Egypt. There is consequently no fear of their being structurally injured by the raised water-levels. With regard to the inscriptions, it is not so easy to foretell what the effect of the flooding will be.

It may, however, be fairly anticipated that those on the higher portions of the stonework, which have not been affected by the deleterious salts contained in the rubbish of the Coptic village which formerly covered their bases, will remain as clear and as sharp in outline as the marks cut on the old quay walls, which have been submerged annually for some twenty centuries. Of course, the accessibility of these temples—to the winter visitor—will suffer, and this is certainly most regrettable. Anyone wishing to see them, however, can do so by visiting Assouan between the months of July and October. During this period they will be annually uncovered. Sir William considers that it would be a mistake to move these temples. There would be no gain to their stability. Their accessibility could only be slightly improved, and they would no longer stand in their original surroundings. Lastly, their inscriptions—which it is intended to carefully copy and record—would be endangered by such removal.

The Excavations at Herculaneum.

The Times correspondent, telegraphing from Rome on the 24th inst., says that at a sitting of the Italian Chamber the previous day Signor Rampoldi requested that the Minister of Public Instruction should give precise information on the ways and means of making excavations at Herculaneum. Signor Augusto Ciuffelli, Under-Secretary of State for Public Instruction, replying for the Government, said that the Department which he represented intended to undertake the excavation of Herculaneum soon, giving, however, to the undertaking a thoroughly national character, as seemed to be the general desire of the country. This would not preclude the Government from making grateful use of the advice and suggestions of learned foreigners. Discussing the undertaking itself, the Under-Secretary of State said that, owing to the nature of the work, the land in which the excavations must be carried out, and the expropriations to be made, the undertaking could not be carried out at once on a large scale. It would, therefore, be accomplished by degrees, and the first results obtained would give an idea of the best method of continuing the excavations, both from the technical and archæological point of view, and also of the necessary expense. If the ordinary appropriation of the Budget should prove insufficient, the Government would ask for fresh funds by presenting a Bill to Parliament.

Coal Smoke Abatement.

Sir William Richmond, R.A. [*H.A.*], addressing the eighth annual meeting of the Coal Smoke Abatement Society last Monday, said that most of the prejudice against the society's action had disappeared. The committee recorded the growth of friendly relations with the London County Council and the majority of the metropolitan borough councils. The Local Government Board, he remarked, was, however, an incomprehensively inert body, which did not fulfil the duties relegated to it by Act of Parliament as regards the smoke question. The society was in a position to demonstrate fully the truth of that assertion. After drawing attention to the fact that 1,788 complaints of smoke nuisance had been forwarded by the society to the West Ham Corporation in the last few years, and that the Local Government Board had actively declined to fulfil its duty and exercise its powers over the local authority of West Ham in the matter, he observed that the department was to be blamed for its inertia. Sir William Richmond alluded to the question of the preservation of the country's immortal works of architecture, which were not too many. Public attention had been drawn towards the condition of the Angel Tower of Canterbury Cathedral by the architect, Mr. W. D. Caröe, and the correspondence that followed in *The Times* proved beyond question that the effect of coal smoke was producing rapid decay upon the face and heart of the stone of one of the most beautiful towers in the world. There could be no doubt, too, that the disastrous condition of the cloisters and of the exterior of Westminster Abbey was largely due to sulphurous and other acids thrown off by a manufactory of artistic wares on the other side of the river. Other cathedrals were suffering in like manner. The society, however, was not confining its energies to the prevention of smoke from factories; it was also endeavouring to deal with the domestic smoke problem.

The Bishop of London said that the movement deserved support in its endeavour to stop what was one of the most horrible, wasteful, fatal, and most unnecessary evils which existed in London. They should allow nothing to rest until they had made London a cleaner and therefore a better place.

The society appeal for financial support.

MINUTES. XII.

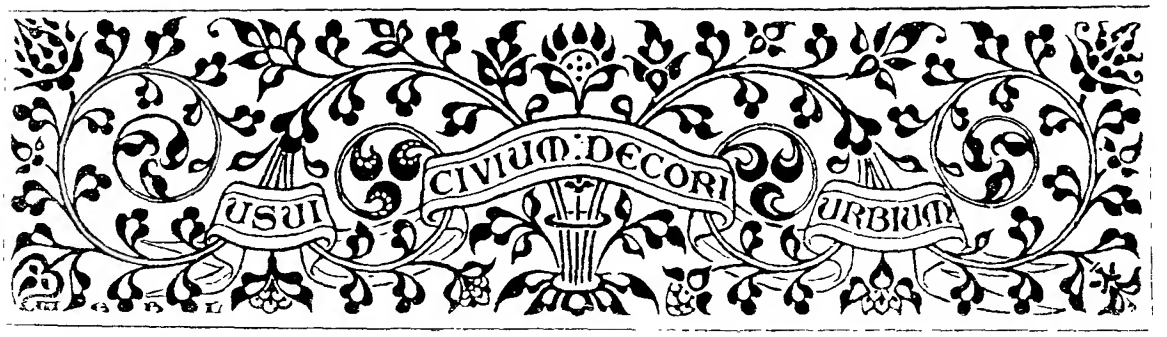
At the Twelfth General Meeting (Ordinary) of the Session 1906–07, held Monday, 22nd April 1907, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair; 64 Fellows and Associates (including 10 members of the Council), 1 Hon. Fellow, 4 Hon. Associates, and visitors—the Minutes of the Meeting held Monday, 8th April 1907 [p. 416], were taken as read and signed as correct.

A number of members attending for the first time since their election were formally admitted by the Chairman.

The *Hon. Secretary* announced the decease of Frank Barlow Osborn, of Birmingham, elected *Associate* 1864, *Fellow* 1872; Richard Creese Harrison, elected *Associate* 1882, *Fellow* 1889; and John Wardle Donald, of South Shields, *Associate*, elected 1888.

A Paper on Gallery Building by Mr. A. W. Weissman, of Amsterdam, having been read by the author, and illustrated, a vote of thanks moved by Sir L. Alma-Tadema, O.M., R.A. [*H.F.*], and seconded by Mr. J. D. Crace [*H.A.*], was passed to Mr. Weissman by acclamation, and briefly responded to.

The proceedings then closed, and the Meeting separated at 10 p.m.



REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1906–1907.

Approved and adopted by the Annual General Meeting, Monday, 6th May 1907.

SINCE the publication of the last Annual Report the Council have held 20 meetings, of which the Council elected in June last have held 15. The following Committees appointed by the Council have met and reported to the Council on matters referred to them:—Charter Revision, Competitions, Prizes and Studentships, Finance, Sessional Papers, Professional Questions, Fellowship Drawings, Fellowship Election Procedure, London County Hall.

Obituary. The losses by death have been as follows:—*Fellows*: George Murray Alexander, Thomas Barnes-Williams, Roger Thomas Conder, Colonel Joseph Gale, William John Gant, George W. Hamilton-Gordon, Richard Creese Harrison, John Nixon Horsfield, David Jenkins, William Alfred Large, George Low, William Mackison, Frank Barlow Osborn, Henry Allen Prothero, Edward Salomons, Henry William Stock, William Angelo Waddington, Philip Wilkinson, Edmund Woodthorpe. *Retired Fellows*: Henry Simpson Legge, Andrew Moseley. *Associates*: Lewis Eric George Collins, John Wardle Donald, Sydney Fowler, Frederick William Ledger, Charles Long, Arthur Maryon Watson. *Hon. Associates*: Lord Montagu of Beaulieu, Colonel Lenox Prendergast. *Hon. Corr. Members*: Albert Thomas, Johan Louis Ussing.

Obituary notices of some of the above have appeared in the JOURNAL.

Royal Gold Medal. The Royal Gold Medal was awarded last year to Sir Lawrence Alma-Tadema, O.M., R.A. [*H.F.*], in recognition of his services to Architecture. The presentation took place on 25th June.

It has been decided to award the Medal this year to Mr. John Belcher, A.R.A., Past President, in recognition of his distinguished merits as an Architect. His Majesty the King has signified his approval of the nomination.

Membership. The following tabular statement shows the present subscribing membership of the Institute compared with that of the previous year:

Year	Fellows	Associates	Hon. Associates	Total
1906	749	1,177	46	1,972
1907	862	1,254	46	2,162

During the official year since the last Annual General Meeting 136 Fellows have been elected, 112 Associates, and 1 Honorary Associate.

Examinations. The Progressive Examinations were held in June and November 1906. The Preliminary was held in London, Belfast, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, and Newcastle-on-Tyne; the Intermediate in London, Belfast, Bristol, Glasgow, Leeds, Manchester, and Newcastle-on-Tyne. The Council desire to record their thanks for the valuable services rendered by the Hon. Secretaries and Examination Committees of the various Allied Societies. The Final and Special Examinations were held in London, and Special Examinations for Colonial candidates were held in Toronto and Melbourne, when four Candidates were examined and two passed. The results are shown in the following tabulated form:

	Number admitted	Exempted	Examined	Passed	Relegated
Preliminary Examination	450	124	326	221	105
Intermediate Examination	309	9	300	141	159
Final and Special Examinations	202	—	202	111	91

The total number of candidates was 961. The number of Probationers now stands at 2,707, and of Students at 879. The Council again have occasion to regret that so large a number of Students remain on the list without proceeding to the Final Examination.

The Ashpitel Prize was awarded to James Theodore Halliday [*A.*], who passed the Final Examination in November 1906.

The Special Examination for Colonial candidates will be held this year in Johannesburg, Sydney, and Toronto.

The Council desire to thank the Board of Examiners for the continuance of their invaluable services.

The Statutory Examinations, qualifying for Candidature as District Surveyor in London, and for Candidature as Building Surveyor under Local Authorities, were held in London in October, when eighteen candidates presented themselves. Certificates of competency to act as District Surveyors in London have been granted to Horace William Cubitt [*A.*], William Robert Davidge [*A.*], Percie Ion Elton, Herbert Kenchington, Gilbert Henry Lovegrove, William Herbert Rogers, Herbert Shepherd [*A.*], William George Shipwright, and Collings Beatson Young; and a Certificate of Competency to act as Building Surveyor under Local Authorities, to Harry Prince Healy.

Prizes and Studentships. The Deed of Award of the various Prizes and Studentships was presented to the Institute at the General Meeting on the 21st January. At the distribution of Prizes on the 4th February Mr. A. W. S. Cross [*F.*] read a criticism of the work submitted, and the President delivered his Address to Students. An exhibition of the drawings was held from the 22nd January to the 2nd February in the Gallery of the Alpine Club, and was visited by 1,387 persons. A selection from the Prize Drawings is now being sent the round of the Allied Societies.

Institute Medals. It having been considered that the Silver Medals awarded by the Institute for the Essay and the Measured Drawings were out of date, the reverse still bearing the title "Institute of British Architects," the Council approached Mr. George Frampton, R.A. [*H.A.*], with a view to his making a new design. Mr. Frampton has generously responded by presenting the Institute with a charming design for the obverse, and has superintended the striking of the dies, the reverse now, according to his suggestion, bearing the Institute Seal.

Past Presidents' Portraits. The portrait of Sir Aston Webb, R.A., by Mr. Solomon J. Solomon, R.A., was duly presented to the Institute in the name of the subscribers by Sir William Emerson at the General Meeting of the 17th December last.

Mr. Frank Dicksee, R.A., has kindly accepted the commission for the portrait of Mr. John Belcher, A.R.A.

Loan of Institute Portrait.

The Council, at the request of the Mayor of Venice, have lent the International Exhibition of Fine Art at Venice Mr. J. Sargent's portrait of the late Mr. Penrose for a period of six months.

Annual Dinner and Social Functions.

The Annual Dinner last year was replaced by the Farewell Banquet of the Seventh International Congress of Architects on Saturday, 21st July, the last evening of the Congress. The Annual Dinner this year will be held at Edinburgh on Friday, 5th July. The Edinburgh Architectural Association are arranging the visit, details of which will shortly be in the hands of members.

The then President, Mr. John Belcher, A.R.A., gave the second of his "At Homes" on Monday, 23rd July, which was well attended by members of the Institute and by the foreign members of the Congress. Drawings selected from the Congress Exhibition at the Grafton Galleries were exhibited on the walls.

The President, Mr. T. E. Collcutt, gave the first of his "At Homes" on Monday, 25th February, the Exhibition being one of measured drawings of Constantinople Churches by Mr. Ramsay Traquair, and of Original Drawings by Smythson, kindly lent by Colonel W. L. Coke.

New Government Buildings.

The Council have had correspondence with the First Commissioner of Works with regard to the completion of the towers, shown in the late J. M. Brydon's design, in the new Government buildings facing Great George Street, with the result that the First Commissioner has acceded to the views of the Council, and given instructions that the single tower of the building now in course of construction shall be continued and completed on the lines laid down by Mr. Brydon. The First Commissioner, in the course of a reply to a question in the House, read the letter he had addressed to the Institute.

London County Hall.

The instructions to competitors having now been issued, the Council can do no more than note briefly the following facts :—

The London County Council drew up the Conditions on the lines indicated in the original suggestions of the Institute Council referred to in the last Annual Report, but several important modifications were made, and the details embodied in the Conditions which were finally issued were not submitted to the Institute Council.

In these original suggestions the Institute Council did not contemplate the international character of the competition, but, acting on the advice of the Competitions Committee, refrained from making any representations on the subject when the intention of the London County Council became known.

The Institute Council were not consulted in any way as to the selection of the eight architects invited to take part in the final stage of the competition.

At the suggestion of the Institute the London County Council has extended the whole time required for the preparation of drawings to nine months, of which six are to be devoted to the preliminary stage.

The Institute Council have also addressed a communication to the London County Council protesting against the appointment of their official architect in the dual capacity of Assessor in the Competition and joint architect to the building.

Strand Improvement.

It is to be regretted that the repeated submission to the London County Council of the views of the Institute Council referred to in the last Annual Report resulted in a final communication from the London County Council declining to reconsider their decision as to the line of frontage on the north side of the Strand between the Churches of St. Mary-le-Strand and St. Clement Danes.

District Surveyors. On the 22nd April a Deputation from the Institute Council laid before the Building Act Committee of the London County Council their views as to the status of District Surveyors, urging a return to the practice of appointing practising architects of established reputation.

Workmen's Compensation Act, 1906. The Council have taken counsel's opinion as to the operation of the Act as between (1) architects and clerks of works, (2) architects and assistants, (3) architects and pupils, (4) building owners and architects. The opinion will be published in the JOURNAL.

The Ulster Society of Architects. The Ulster Society of Architects, having severed its alliance with the Royal Institute of the Architects of Ireland, applied for alliance with the Institute. In view, however, of the protests raised by the Irish Institute, the Council deemed it advisable to defer consideration of the application until such time as the Irish Institute and the Ulster Society might come to an amicable understanding.

The Palace of Peace at The Hague. Since the issue of the last Annual Report the awards in this international competition have been made. Mr. T. E. Collcutt, the British Member of the Jury, read a confidential report to the Council criticising the awards. The Council had before them an invitation from a Dutch Committee to co-operate in a movement of protest, but declined.

The Seventh International Congress of Architects. The August number of the JOURNAL having been devoted to a full account of the Congress, the Council think it unnecessary to do more than record the fact that it was successfully held during the week from the 16th to the 21st July. It was attended by foreign members from every country in Europe and from America and Japan, and the Council have been much gratified by the courteous expressions of appreciation they have received from all quarters at home and abroad.

The Council have pleasure in reporting that the Congress was financially successful, and that the Executive Committee have a balance of nearly £600 in hand for the printing, &c., of the *Compte Rendu*, or Volume of Transactions of the Congress. This will be issued shortly to members of the Congress.

The thanks of the Council are due to the Executive Committee, headed by Mr. John Belcher, A.R.A.—who carried through the onerous duties of President with his usual personal charm and a dignity worthy of his high office—the Exhibition Committee, the Ladies' Committee, the Institute Staff, and the many enthusiastic helpers whose invaluable services were enlisted before and during the Congress.

The Eighth International Congress will take place in Vienna in May 1908. Members will receive due notice of this, and the Council venture to hope that it will be largely attended by British representatives.

In commemoration of the Congress the Société Centrale des Architectes Français and the Société des Architectes Diplomés par le Gouvernement Français each presented the Institute with a specially designed medal.

Also in commemoration of the Congress the Institute have added to the list of the Hon. Corresponding Members one or more of the distinguished representatives of each country who visited London.

Charter Revision. The Council entrusted to a Special Committee the consideration of the Resolutions with regard to the question of Registration passed at the General Meeting on the 3rd April 1906. The Committee held many meetings during the Session, and finally reported to the Council. The Council's Report came before the General Body on the evening of the 3rd March, when with an amendment the Report was adopted, and the Council were authorised to prepare a revised Charter and a Bill to Parliament for submission to the General Body. The

Council have entrusted the task to the same Special Committee, who are now in the midst of their labours.

Appointments. Since the issue of the last Annual Report the Council have made the following appointments:—

The Institute Representative at the Fiftieth Anniversary of the foundation of the American Institute of Architects	Sir Aston Webb, R.A.
The Institute Representative on the Court of the University of Sheffield (reappointment)	Sir Aston Webb, R.A.
Honorary Secretary of the Institute for South Africa . .	Mr. A. H. Reid.
The Institute Representative on the Clenleys Cottage Exhibition	The President of the Manchester Society.
The Institute Representatives at the Royal Sanitary Institute Conference to be held this year in Dublin . . .	Mr. E. T. Hall and Mr. W. D. Caröe.
The Institute Representatives at the Annual Congress of the Royal Institute of Public Health to be held this year in the Isle of Man	The Presidents of the Manchester and Liverpool Societies.
The Institute Representative on the Registration Committee of the Plumbers' Company (reappointment) . . .	Mr. H. D. Searles-Wood.
The Institute Representative on the Sanitary Inspectors' Examination Board (reappointment)	Mr. T. W. Cutler.
The Institute Representative on the Joint Committee for obtaining a reduced postal rate for the journals of Learned Societies	Mr. Alexander Graham.

Grants. Since the issue of the last Annual Report the Council have made the following grants:—

British School at Athens, £30. 10*s*.
British School at Rome, £21.
Grant to International Congress, £250.
Royal Architectural Museum, £21.
Second International Congress on School Hygiene, £10. 10*s*.
Architectural Association, £100.

Competitions. The following Resolutions of the Royal Institute were carried at the General Meeting of the 7th January:—

1. Resolved, That in view of the fact that limited competitions for public buildings erected with public moneys are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that such competitions should not be limited, and should take such steps as may be deemed advisable to discourage public bodies from instituting such competitions.
2. Resolved, That this Institute exert its influence in obtaining the abolition of the growing custom of penalising non-competing architects by retaining their deposit.
3. Resolved, That this Meeting considers that the Assessor in a competition should refrain from any expression of doubt as to the relative merits of the designs placed in his award, such expression of doubt being calculated to weaken the effect of his award and to lead the promoters to override it, to the great detriment of the object aimed at—viz., the adoption of the best design.

The following have been the President's appointments to Assessorships during the official year:—

Far Headingley	Church Enlargement	Mr. H. C. Corlette.
Gorton	Elementary School	Mr. Charles Hadfield.
Newark	Elementary School	Mr. A. N. Bromley.
North Wales	University College	Sir Aston Webb, R.A.
Plymouth	Free Library	Mr. Henry T. Hare.
Salford	Royal Hospital	Mr. Keith D. Young.
South Shields	Union	Mr. T. W. Cutler.
Stone	Hospital	Mr. W. A. Pite.
Sunderland	Branch Library	Mr. J. T. Cackett.
Sunderland	Children's Hospital	Mr. G. Lister Newcombe.
Westminster	City School	Mr. J. S. Gibson.
Wimbledon	Schools	Mr. John W. Simpson.

Copies of the "Regulations" have been sent to promoters of the following competitions, together with letters requesting that a copy of the Conditions should be sent for the Institute Library. In cases where the Conditions have been unsatisfactory, letters urging modifications have been sent to the promoters.

Aberdeen: Masonic Hall.
Ambleside: School.
Ashton-in-Makerfield: Public Baths.
Barnsley: High School.
Bath: Rebuilding Street.
Bishopwearmouth: Church.
Cardiff: Children's Hospital.
Dartmouth: Hall.
Durham: Secondary School.
Edinburgh: National Exhibition.
Failsworth: Public Library.
Galway: Fever Hospital.
Gaywood: School.
Glossop: Nursing and Convalescent Home.
Goole: Secondary Schools.
Grimsby: Congregational School.
Hull: Silcoates School.
Lamorbey: Church.
Leiston and Stowmarket: Schools.
Leven: Co-operative Buildings.
London: County Hall.
Newcastle-on-Tyne: Model Cottages.
Newton-in-Makerfield: Carnegie Library.
Plymouth: Library.
Riddie: Laying-out Estate.
Salford: Baths.
Sheffield: Model Cottages.
Sheffield: Union Office alterations.
Slough: Elementary School.
South Shields: Cottage Homes.
Sunderland: Branch Libraries.
Sunderland: Children's Hospital.
Wallasey: Schools.
Wemyss: Elementary Schools.
Westminster: City School.
Wolverhampton: Nurses' Home.

Sessional Papers. Since the issue of the last Annual Report the following sessional papers have been read before the Institute:—

21st May, 1906: "Some Observations on the Report of the Royal Commission on London Traffic: with special reference to the proposed formation of New Thoroughfares," by Mr. Paul Waterhouse, M.A. [*F.*].

19th Nov.: "The Crœsus (sixth century B.C.) Temple of Artemis at Ephesus," by Mr. A. E. Henderson, R.B.A.

17th Dec.: "The Strength and Composition of Mortar," by Mr. W. J. Dibdin, F.I.C., F.C.S.

21st Jan. 1907: "Marbles: Their Ancient and Modern Application," by Sir L. Alma-Tadema, O.M., R.A. [*H.F.*], and Mr. Wm. Brindley.

18th Feb.: "Modern Church Building," by Sir Charles A. Nicholson, Bart. [*F.*], and Mr. Hubert C. Corlette [*F.*].

18th March: "Public Libraries," by Mr. Henry T. Hare [*F.*] and Mr. J. Duff Brown.

8th April: "Hotel Planning," by Mr. Stanley Hamp [*A.*].

22nd April: "Gallery Building," by Mr. A. W. Weissman.

The Council desire to express their cordial thanks to the readers of the above papers.

Board of Architectural Education. The Board of Architectural Education report as follows:—

Since their last report the Board, in response to a request from the Victoria University, Manchester, have appointed Visitors to report on the work of the students at the School of Architecture.

The University of Liverpool, after conferring with representatives of the Board, have arranged to confer a Degree in Architecture, to be entitled "B.Arch."

The Board also call attention to the fact that the University of London has instituted a B.A. Degree in Architecture.

A Syndicate for the consideration of a School in Architecture and a Diploma was appointed by the University of Cambridge, and invited the Council of the R.I.B.A. to nominate delegates. Sir Aston Webb, Messrs. Reginald Blomfield, Cross, and Slater were nominated, and attended a meeting of the Syndicate at Cambridge, where they expressed their views as to the proposals submitted.

In view of the discrepancy that appears between the R.I.B.A. examination papers and the syllabus of the Board, the Board have requested the Council of the R.I.B.A. to appoint a Joint Committee of the Board of Architectural Education and the Board of Examiners to consider their relations and the nature of the examination papers.

During the past year the Visitors appointed by the Board have attended periodically the Architectural Association Day Schools; the Architectural Association Continuation Schools; the Architectural Schools of Liverpool University; University College, London; King's College, London; and Victoria University, Manchester; and have reported to the Board making suggestions with regard to the work, which have been duly forwarded to the authorities.

A Sub-Committee of the Board has been appointed with a view to obtaining diagrams of standard examples of doors, windows, domes, vaults, &c., for use in the various schools. A form of certificate has been approved by the Board, and is now granted to students.

Finance. The Council have the pleasure to report the continued financial prosperity of the Institute, and to point to the balance of £1,435. 16*s*. 9*d*. of income over expenditure, which is gratifying in view of the extraordinary expenditure of £631 in connection with the International Congress. It is due in great measure to the increase in membership.

The sum of £3,000 has been invested this year, thus bringing up the invested capital of the Institute to £21,000.

The statement of Income and Expenditure and the Balance Sheet for the year ending 31st December 1906 and the estimate of Income and Expenditure for the current year are appended to this Report.

REPORT OF THE ART STANDING COMMITTEE.

Since the issue of the last Report the Art Committee have held four meetings.

Mr. John W. Simpson was elected Chairman, and Messrs. W. D. Caröe and J. S. Gibson re-elected Hon. Secretaries. After rendering efficient services for several sessions, Mr. Caröe regretted being unable to continue his work, and resigned his position as Hon. Secretary. Mr. W. A. Forsyth was elected to fill the vacancy.

The following matters are some of the more important of those which have been under consideration by the Committee:—

New County Hall for the London County Council;
Avenue Theatre and Charing Cross Station;
Government New Offices, Whitehall;
Navy League Proposals *re* Trafalgar Square;
Restoration of Selby Abbey;
Restoration of Holyrood Chapel.

The Committee again considered the proposal of the London County Council to erect a new County Hall, and, upon hearing that a competition for designs was to be held, resolved to draw the attention of that Council to the necessity of considering the site of the new building in relation to its approaches from all sides, and particularly to the street on the east boundary. Reference was also made to the desirability of arranging for an effective continuation of the proposed embankment, and that the width of such embankment should be of a generous nature in relation to the height of the proposed building. The object thus in view was to induce the London County Council to embody conditions relative to the foregoing suggestions in the instructions to competitors.

The conference between Sir Benjamin Baker and Mr. Tempest, Engineer to the South Eastern and Chatham Railway, and the Art Committee had the satisfactory result of modifying the official proposals with regard to the treatment of the wind screen of Charing Cross Station. The work was brought into harmony with those recommendations, and the effect may be regarded as a distinct improvement on the original proposal.

The architects of the Avenue Theatre were approached upon the matter of the crude brick erection put up since the rebuilding of the theatre, which interfered with the view of the adjoining station roof. It was suggested that a simple architectural treatment should be given to the work, which is very conspicuous. The owner and architect have promised favourable consideration of the Committee's suggestion.

The design of the detail on the square towers at the Government Offices in Whitehall was dealt with from the point of view that it appeared inconsistent with the work characteristic of the late J. M. Brydon. Sir Henry Tanner kindly informed the Committee that the executed work was carried out with the sanction of the Advisory Committee. He further added that the small scale, the half-inch, and the perspective drawings all differ from one another.

Certain published intentions of the Navy League to remove some statues and other permanent features and to erect buildings in Trafalgar Square aroused the interest of the Committee and were dealt with. A reply from H.M.'s Office of Works was received stating that no designs had yet been submitted to the First Commissioner.

The Committee shared in the general feeling of regret at the deplorable destruction of Selby Abbey. Various proposals for restoration gathered from public and private sources were brought to their attention. The matter received careful consideration, and the architect of the work was communicated with. The Committee hoped that the suggestions for the restoration of ancient buildings (issued by the Institute) might be closely adhered to; that, as far as possible, rebuilding would only be resorted to when all other means of preserving what remained had been found to be impossible, and that in any new works which were essential mere copying of any ancient carving or other features should be avoided. The Committee were conscious of the difficulties attending the replacing of the wood vaulted roof which was destroyed, and ventured to hope that the architect would agree that any attempt to erect a modern wood groined ceiling in imitation of the old was to be deprecated. The matter being of great public importance, the Committee felt it their duty to support the architect, Mr. J. Oldrid Scott, in his endeavours to attain the ends suggested. Mr. Scott was good enough to forward a copy of his report upon the proposed works at the Abbey, which was of a generally satisfactory nature, and the Committee thanked him for his courtesy.

The proposal to restore and rebuild Holyrood Chapel was condemned, and the Committee resolved to ask the Institute Council to write to H.M.'s Office of Works in Scotland to protest against any such undertaking, as the Committee considered the building too important as an historical monument to be interfered with. It is gratifying to know that the proposed restoration has been abandoned.

The Committee now have under consideration a scheme dealing with prospective public improvements in London with a view to assisting the promoters of such work with suggestions which will aid in obtaining a continuity of artistic development throughout London.

REPORT OF THE LITERATURE STANDING COMMITTEE.

Eight meetings have been held since the last Annual Report.

The following officers were elected at the commencement of the Session:—Mr. R. Phenè Spiers, Chairman; Mr. Paul Waterhouse, Vice-Chairman; Mr. Arthur Maryon Watson and Mr. Harrison Townsend, Hon. Secretaries.

Mr. Leslie Waterhouse, who had acted as Senior Honorary Secretary since 1901, having found it necessary to retire in consequence of other demands upon his time, was cordially thanked for his services.

The Committee have to express their regret at the great loss they have sustained by the death in January of Colonel Prendergast, one of their oldest members, and in February of Mr. A. Maryon Watson, whose efficiency, earnestness, and zeal had, since his appointment as Hon. Secretary in 1903, been invaluable.

The Sub-Committee appointed to revise the Lists of Books recommended to Students and Probationers in the *R.I.B.A. Kalendar*, with a view to making suggestions thereon to the Board of Examiners, completed their work early in the Session. The lists having been further revised in Committee, they were submitted to the Council.

The Committee desire to acknowledge their indebtedness to the authors of the various reviews and articles which have appeared in the JOURNAL, and to the Publishers who have contributed works to the Library during the year.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 276 volumes and 48 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and Transactions of Societies, and parts of works issued in serial form.

The number of works presented to the Reference Library was 119 volumes and 45 pamphlets.

The works purchased comprise 152 volumes, out of which 63 volumes were added to the Loan Library.

The attendance of readers in the Reference Library numbered 4,909.

The attendance was affected in July by the Library being required for the work of the International Congress.

The number of works issued on loan was 3,545.

The number of books issued through the post was 225 (last year 121).

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 79.

Donations of books or pamphlets have been received from Mr. T. M. Rickman, Mr. Benjamin Ingelow, Monsieur R. Cloquet, Mr. R. Phenè Spiers, Mr. C. Fitzroy Doll, Mr. J. D. Crace, Mr. F. G. Hilton Price, Monsieur C. Nizet, Mr. John Bilson, Mr. Robert Williams, Sir J. Wolfe Barry, Herr F. Meldahl, Mr. T. Mellard Reade, Mr. John Hebb, Monsieur G. Harmand, Herr Otto Wagner, Dr. F. J. Allen, Mr. C. R. Baker King, and Mr. A. Koch.

The Government of Hungary presented, through the Secretary of State for Foreign Affairs, a handsome monograph published on the completion of the Hungarian Parliament Buildings.

The original drawings for Wood and Dawkin's *Palmyra* have been acquired.

Lanciani's maps of Rome, *Forma Urbis Romæ*, have also been added to the Library.

The delegates of the Italian Government at the Seventh International Congress of Architects (Commendatore Alfredo D'Andrade and Signor M. E. Cannizzaro) presented, on behalf of their Government, 24 volumes dealing with the care of ancient monuments and other subjects of interest to architects.

Amongst the books presented or acquired during the year the following may be mentioned: Furtwängler's *Ægina*; Schultz's *Dantzig und Seine Bauwerke*; Kortz's *Wien am Anfang des XX Jahrhunderts*; Bœswillwald's *Timgad*; Cagnat's *Les Monuments Historiques de la Tunisie*; Hollar's *Castella et Prætoria Nobilium Brabantiæ*; Serlio's *D'Architettura* (Venice, 1566); Errard and Gayet's *L'Art Byzantin*; King's *Cathedrall and Conventuall Churches of England and Wales*; Triggs's *Art of Garden Design in Italy*; Gonse's *La Sculpture Française depuis le XIVe Siècle*; Perrault's *Architecture* (1708); Vasi's *Vedute di Roma*; Evelyn's *Parallels*; Sgrilli's *Santa Maria del Fiore Metropolitana Fiorentina*; D'Espouy's *Fragments d'Architecture Antique* (vol. ii.); Lethaby's *Westminster Abbey*; &c.

LIBRARY STATISTICS 1906–7.

Date	Day Attendances.			Evening Attendances.			Books issued on Loan.
	Members.	Non-members.	Total.	Members.	Non-members.	Total.	
1906.							
April	97	175	272	52	134	186	266
May	97	240	337	96	171	267	353
June	109	145	254	48	96	144	228
July	47	70	117	14	27	41	150
August	Reference Library closed.			Reference Library closed.			51
September	96	130	226	34	57	91	264
October	111	214	325	96	153	249	443
November	111	182	293	44	130	174	337
December	96	133	229	25	75	100	264
1907.							
January	135	203	338	67	109	176	400
February	161	191	352	59	141	200	391
March	149	199	348	56	134	190	398
Total	1209	1882	3091	591	1227	1818	3545

REPORT OF THE PRACTICE STANDING COMMITTEE.

Nine monthly meetings have been held since the date of the last Annual Report, and two special meetings in addition, all of which were well attended. The following officers were elected at the commencement of the Session:—Mr. Ernest Flint, Chairman; Mr. W. H. Atkin Berry, Vice-Chairman; Messrs. Edw. Greenop and W. Chas. Waymouth, Hon. Secretaries.

Revision of the Institute Scale of Charges.—This matter, which was under consideration at the date of the Report of last Session, was further proceeded with, and the revision of the Scale completed and sent up to the Council, before whom it now lies.

Institute Form of Contract.—A considerable portion of the time of the Committee has been occupied with the consideration of the present Form of Building Contract, issued from the Institute, in the light of the results of certain recent legal decisions, notably those of *Robins* v. *Goddard* and *Goddard* v. *Ferguson*. As the result of representations made by the Committee and a suggestion that the necessity for alteration of the terms of the Contract in the interests of all parties had been shown to exist by the findings in those cases, the Committee were invited to draw up a report. This was done, and, upon the recommendation of the Committee, the Council have instructed them to prepare a statement in order to obtain

counsel's opinion for its assistance in considering the Committee's Report. The Committee are now, therefore, proceeding to prepare the statement.

Lanning v. *Davey & Salter.*—This case was brought before the Committee and briefly discussed, but in view of the pending appeal the further consideration was postponed.

Modification of Country By-laws.—At the request of the Council the Committee nominated three members to sit on a Joint Committee of the Art, Science, and Practice Committees to consider the modifications of the By-laws as proposed in "A Bill to Amend the Public Health Acts,' now in the House of Commons, and "The Public Health Amendment Bill," now in the House of Lords.

London Building Act, 1894.—The Council referred to the Committee an invitation from the London County Council to the Institute to confer with them upon a suggested revision of Schedule 1 of the Act. The Committee are now awaiting fuller information from the London County Council.

Various communications from members of the Institute and others, also from public and professional bodies, were referred by the Council to the Committee, in most cases asking for advice. Amongst them the following may be mentioned :—

(1) The meaning of "cash discount" in the Institute Form of Contract.
(2) The powers of a Local Government Board District Auditor to compel the attendance of an architect and the production by him of accounts and vouchers.
(3) The employment of engineering and other experts by architects.
(4) The definition of the duties of a clerk of works when employed by public bodies.

REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Committee have held seven meetings, with an average attendance of twelve members, since the last Report was published.

Mr. Lewis Solomon was appointed Chairman, Mr. Max Clarke Vice-Chairman, and Mr. H. D. Searles-Wood and Mr. Matt. Garbutt Hon. Secretaries.

The Committee have been represented on the Standard Committee for Portland Cement by Mr. Lewis Solomon, and the Committee dealing with cast-iron pipes by Mr. Reade. The variations proposed in the Portland cement specification are still under consideration ; the standard specification for cast-iron pipes has been published.

A Committee has been appointed to draw up a Report on the Composition of Mortar, and a programme of tests has been prepared.

A Committee has been appointed to consider the Amendment of the Building By-laws in force in this country.

A Committee has been appointed to draw up a Report on Modern Methods of dealing with the Sewage of Houses where no sewers are available.

FINANCES.

The accounts of Ordinary and Trust Funds for 1906, prepared by Messrs. Saffery, Sons, & Co., Chartered Accountants, and audited by Messrs. Sydney Perks [*F.*] and W. Arthur Webb [*A.*], the Hon. Auditors appointed at the Annual General Meeting of 1906, here follow :—

Income and Expenditure Account of Ordinary Funds for the Year ended 31st December 1906.

Dr. Exclusive of Entrance Fees, Final Examination Fees, and Subscriptions in advance. **Cr.**

EXPENDITURE.

	£ s. d.	£ s. d.
To ORDINARY EXPENDITURE—		
Rent	935 0 0	
Gas and Electric Lighting	97 10 10	
Coals	15 6 0	
		1047 16 10
Salaries and extra assistance		1860 1 0
General Printing, Stationery, Stamps, and Petty Expenses		869 5 4
General Meetings, Exhibitions, &c		353 11 9
Housekeeping		172 1 0
Advertisements		57 10 3
Examination Expenses		506 7 6
General Repairs		54 2 7
Fire Insurance		33 3 0
Medals and other Prizes		177 19 0
Grant to Library	150 0 0	
Grant to Architects' Benevolent Society	21 0 0	
Grant to Artists' Benevolent Fund	21 0 0	
Grant to Architectural Association / Grant to Royal Architectural Museum	121 0 0	
Grant to British School at Athens	30 10 0	
Grant to British School at Rome	21 0 0	
Grant to Congress	250 0 0	
		614 10 0
The JOURNAL—		
Reporting	59 17 0	
Printing and Binding	873 9 8	
Illustrations	214 12 9	
Addressing, Postage, and Carriage	282 13 0	
		1430 12 5
The KALENDAR—		
Printing	183 12 3	
Postage and Carriage	35 1 6	
		218 13 9
Contributions to Allied Societies		367 5 6
MISCELLANEOUS EXPENSES—		
Presidents' Portrait Fund	72 9 0	
Legal and Accountants' Charges	66 0 3	
Registration Committee (Reporting)	73 8 0	
Telephone	32 2 7	
Garden Party	381 1 8	
Honorarium to Staff	89 9 0	
Sundries	15 17 0	
		730 7 6
Balance of Income over Expenditure		1435 16 9
		£9869 4 2

SAFFERY, SONS, & CO.,
Chartered Accountants.

INCOME.

	£ s. d.	£ s. d.
BY ORDINARY INCOME—		
Subscriptions—		
759 Fellows at £4. 4s.	3187 16 0	
Ditto, Arrears	67 4 0	
1094 Associates at £2. 2s.	2297 8 0	
Ditto, on Account	0 8 0	
Ditto, Arrears	143 5 0	
1 Ditto reinstated	14 14 0	
37 Hon. Associates at £2. 2s.	77 14 0	
Ditto, Arrears	8 8 0	
		5796 17 0
Dividends on Stocks and Shares—		
Architectural Union Co.	184 2 0	
Consols	65 9 6	
Tasmanian Government Stock	63 1 2	
Dominion of Canada Stock	34 4 0	
Queensland Government Stock	46 16 10	
London and North Western Railway Stock	33 1 10	
Bank Stock	2 17 4	
Madras Railway Stock	44 17 8	
Great Northern Railway Stock	31 14 8	
Great Western Railway Stock	35 9 8	
Cape of Good Hope Stock	50 15 4	
Interest on Deposit	63 5 11	
		655 15 11
JOURNAL and KALENDAR—		
Advertisements	1000 0 0	
Sales £102 6 9		
Sales of other Publications 427 5 6		
	529 12 3	
		1529 12 3
Use of Rooms—		
District Surveyors' Association	25 0 0	
R.I.B.A. Tenants	67 10 0	
		92 10 0
Examination Fees—		
Statutory	59 17 0	
Preliminary	795 18 0	
Intermediate	635 5 0	
Special and Final (forfeited)	303 9 0	
		1794 9 0
		£9869 4 2

Examined with the vouchers and found to be correct. *22nd March* 1907. (Signed) { SYDNEY PERKS. W. ARTHUR WEBB.

Balance Sheet of Ordinary Funds, 31st December 1906.

Dr. **Cr.**

LIABILITIES.

	£ s. d.	£ s. d.
To Sundry Creditors		228 6 10
To Examination Fees anticipatory of election		204 15 0
To Subscriptions received in advance		296 2 0
To Building Fund		1155 19 4
To Charitable Fund		969 14 7
To Travelling Fund		1385 4 0
To *Accumulated Fund*—		
Surplus of liquid assets over Liabilities as per last Balance sheet	15699 7 1	
Add Entrance Fees in 1906	918 15 0	
Arrears for 1906 (as per contra)	241 2 0	
	16859 4 1	
Less Arrears for 1905, since received or cancelled £270 6 0		
Furniture and Fittings bought 19 0 0	289 6 0	
	16569 18 1	
Add Balance of Income over Expenditure in 1906	1435 16 9	
		18005 14 10
		£22245 16 7

SAFFERY, SONS, & CO.,
Chartered Accountants.

ASSETS.

	£ s. d.	£ s. d.
By Cash at Bank		74 0 5
Deposit at Bank		2900 0 0
By *Investments at cost*—		
Architectural Union Co., 263 Shares	3643 1 0	
Consols 2½ per Cent. £2942 11s.	2975 11 0	
Tasmanian Government 3½ per Cent. Stock £1896. 8s. 9d.	2050 0 0	
Dominion of Canada 3 per Cent. Registered Stock £1200	1219 11 0	
Queensland Government 3 per Cent. Stock £1643. 9s. 1d.	1550 0 0	
London and North Western Railway 4 per Cent. Consolidated Preference Stock £871	1049 5 8	
Bank Stock £31. 18s.	31 18 0	
Madras Railway 4½ per Cent. Stock £1050	1385 4 0	
Great Northern Railway 4 per Cent. Consolidated Perpetual Preference Stock £835	999 12 0	
Great Western Railway 5 per Cent. Consolidated Preference Stock £747	1199 16 10	
Cape of Good Hope 3½ per Cent. Stock £1526. 13s. 4d.	1500 0 0	
By *Building Fund*—		
Indian Government 3½ per Cent. Stock £1069. 11s. 2d.	1155 19 4	
		18760 1 10
By Debtors (Rents, Advertisements, &c.)		197 18 4
By Subscriptions in Arrear 1905	72 14 0	
Ditto 1906	241 2 0	
		313 16 0
		£22245 16 7

Examined with the vouchers and found to be correct. *22nd March* 1907. (Signed) { SYDNEY PERKS. W. ARTHUR WEBB.

Revenue Account of Trust Funds for the Year ended 31st December 1906.

Dr.

	£	s.	d.
ASHPITEL PRIZE FUND :—			
To Cost of Ashpitel Prize [Mr. I. H. Markham (A.)]	10	0	0
To Balance carried forward	36	2	0
	46	2	0
DONALDSON TESTIMONIAL FUND :—			
To Cost of Medals	2	15	0
To Balance carried forward	8	0	11
	10	15	11
GODWIN BURSARY :—			
To Grant to Mr F. R. Hiorns [A.] (balance)	50	0	0
To Grant to Mr. H. Inigo Triggs [A.] (first instalment)	30	0	0
To Cost of Medal	1	15	0
To Balance carried forward	36	0	10
	97	15	10
GRISSELL LEGACY :—			
To Balance from last account	6	18	1
To Cash paid Medallist [Mr. G. Nott]	10	10	0
To Cost of Medals	9	18	0
	27	6	1
LIBRARY FUND :—			
To Purchase of Books, Binding, &c.	121	10	9
To Printing and Stationery	9	7	6
To Petty Expenses	3	3	1
To Balance carried forward	64	3	8
	198	5	0
OWEN JONES STUDENTSHIP :—			
To Amount paid to Students, viz. :—	£ s d.		
W. Davidson 50 0 0			
H. Morley 50 0 0			
G. F. Gascoyne 50 0 0			
	150	0	0
To Amount paid for Extra Prizes	15	15	0
To Balance carried forward	262	6	0
	428	1	0
PUGIN MEMORIAL FUND :—			
To Balance from last account	20	12	11
To Amount paid to Student [Mr. E. Garratt]	40	0	0
To Cost of Medal	1	9	6
	62	2	5
THE LEGACY FUND :—			
To Cash paid Mr. R. Atkinson (balance)	10	0	0
To Cash paid Mr. Heaton Comyn	30	0	0
To Cash paid Mr. A. G. Horsnell	20	0	0
To Cost of Medal	2	0	0
	62	0	0
ARTHUR CATES LEGACY :—			
To Amount paid Prizeman [Mr. I. H. Markham]	42	0	0
To Balance carried forward	60	7	1
	102	7	1
SAXON SNELL BEQUEST :—			
To Balance carried forward	84	16	6
	84	16	6
WIMPERIS BEQUEST :—			
To Balance carried forward	43	16	3
	43	16	3
ANDERSON AND WEBB FUND :—			
To Amount paid for Board of Architectural Education Certificates	4	10	0
To Balance carried forward	55	14	0
	60	4	0

SAFFERY, SONS, & CO.,
Chartered Accountants.

Cr.

	£	s.	d.
By Balance from last Account	32	2	0
By Dividends on 20 Shares, Architectural Union Co., at 14s. per share	14	0	0
	46	2	0
By Balance from last Account	8	3	3
By Dividends on £72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	2	12	8
	10	15	11
By Balance from last Account	58	13	0
By Dividends on £1030 Caledonian Railway 4 per Cent. Debenture Stock	39	2	10
	97	15	10
By Dividends on £20. 0s. 8d. B Annuity Great Indian Peninsula Railway	13	11	5
By Balance carried forward	13	14	8
	27	6	1
By Balance from last Account	39	5	2
By Annual Donation from Mr. Sydney Smirke [F.]	5	0	0
By Annual Grant from Ordinary Fund	150	0	0
By Donation from A. H. Ryan Temson	1	1	0
By Fines, &c. (Loan Library)	2	18	10
	198	5	0
By Balance from last Account	325	5	3
By Dividends on £2128 Midland Railway 2½ per Cent. Debenture Stock	50	10	10
By Dividends on £1100 Great Western Railway 5 per Cent. Consolidated Guaranteed Stock	52	4	11
	428	1	0
By Dividends on £1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	40	15	4
By Balance carried forward	21	7	1
	62	2	5
By Balance from last Account	22	16	4
By Dividends on £1150 2½ per Cent. Consols	27	6	4
By Balance carried forward	11	17	4
	62	0	0
By Balance from last Account	58	5	5
By Dividends on £1160 4 per cent. N.-E. Railway Preference Stock	44	1	8
	102	7	1
By Balance from last Account	61	12	2
By Dividends on £698. 4s. New Zealand 3½ per Cent. Stock	23	4	4
	84	16	6
By Balance from last Account	14	12	1
By Dividend on £1024. 18s. 8d. Metropolitan Water Board 3 per Cent Stock	29	4	2
	43	16	3
By Balance from last Account	30	2	0
By Dividend on 43 Architectural Union Co. Ltd. Shares	30	2	0
	60	4	0

Examined with the vouchers and found to be correct. *22nd March* 1907. (Signed) { SYDNEY PERKS. W. ARTHUR WEBB.

Dr. *Balance Sheet of Trust Funds, 31st December 1906.* **Cr.**

	£	s.	d.
To ASHPITEL PRIZE FUND:—			
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share	280	0	0
Balance at credit of Revenue Account	36	2	0
To DONALDSON TESTIMONIAL FUND:—			
Capital—£72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	89	0	0
Balance at credit of Revenue Account	8	0	11
To GODWIN BURSARY FUND:—			
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock	1344	13	6
Balance at credit of Revenue Account	36	0	10
To GRISSELL LEGACY FUND:—			
Capital—£20. 0s. 8d B Annuity Great Indian Peninsula Railway	513	14	10
To LIBRARY FUND:—			
Balance at credit of Revenue Account	64	3	8
To OWEN JONES STUDENTSHIP FUND:—			
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock (£ 1773 0 0)			
£1100 Great Western Railway 5 per Cent. Consolidated Guaranteed Stock (£ 1900 12 0)			
	3673	12	0
Balance at credit of Revenue Account	262	6	0
To PUGIN MEMORIAL FUND:—			
Capital—£1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	1342	12	6
To TITE LEGACY FUND:—			
Capital—£1150 2½ per Cent. Consols	1109	1	6
To ARTHUR CATES LEGACY FUND:—			
Capital—£1160 N.-E. Ry. 4 per Cent. Preference Stock	1504	5	6
Balance at credit of Revenue Account	60	7	1
To SAXON SNELL BEQUEST:—			
Capital—£698. 4s. New Zealand 3½ per Cent. Stock	700	0	0
Balance at credit of Revenue Account	84	16	6
To WIMPERIS BEQUEST:—			
Capital—£1024. 18s. 8d. Metropolitan Water Board 3 per Cent. Stock	1000	0	0
Balance at credit of Revenue Account	43	16	3
To ANDERSON AND WEBB FUND (Board of Architectural Education):—			
Capital—43 Shares in the Architectural Union Co. Ltd. at £14 per share	602	0	0
Balance at credit of Revenue Account	55	14	0
	£12810	7	1

	£	s.	d.
By Government and other Securities for total book value of Trust Funds invested	12158	19	10
By Balance Grissell Legacy Fund Revenue Account	13	14	8
By Balance Pugin Memorial Fund Revenue Account	21	7	1
By Balance Tite Legacy Fund Revenue Account	11	17	4
By Cash in hands of Bankers	504	8	2
By Cash on deposit	100	0	0
	£12810	7	1

SAFFERY, SONS, & CO.,
Chartered Accountants.

Examined with the vouchers and found to be correct. *22nd March* 1907. (Signed) { SYDNEY PERKS. W. ARTHUR WEBB.

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1907, exclusive of Entrance and Final Examination Fees:—

Estimate of Income and Expenditure for Year ending 31st December 1907.

EXPENDITURE.	£	s.	d.
Rent, Lighting, and Warming	1100	0	0
Salaries	1888	0	0
General Printing, Stationery, Postages, and Petty Expenses	825	0	0
General Meetings, Exhibitions, &c.	365	0	0
Housekeeping	180	0	0
Advertisements	60	0	0
Examination Expenses	525	0	0
General Repairs	75	0	0
Fire Insurance	35	0	0
Medals and other Prizes	150	0	0
Grant to Library	150	0	0
Other Grants	190	0	0
JOURNAL	1510	0	0
KALENDAR	250	0	0
Contributions to Allied Societies	375	0	0
Miscellaneous— (£ 285 0 0; Charter Revision; Legal and Accountants' Charges; 100 0 0; Miscellaneous, including Annual Dinner 150 0 0)	535	0	0
Balance	1815	0	0
	£10028	0	0

INCOME.	£	s.	d.
Subscriptions and Arrears	5865	0	0
Dividends on Stocks and Shares and Interest on Deposit Account	700	0	0
Sale of Publications (other than JOURNAL and KALENDAR)	430	0	0
JOURNAL and KALENDAR— Sales (£ 110 0 0); Advertisements (£ 1000 0 0)	1110	0	0
Use of Rooms	93	0	0
Examination Fees— Statutory (£ 50 0 0); Preliminary (£ 810 0 0); Intermediate (£ 650 0 0); Special and Final (forfeited) (£ 320 0 0)	1830	0	0
	£10028	0	0

AUDITORS' REPORT.

We have carefully examined the accounts of Expenditure and Income for the year 1906, and have much pleasure in reporting that we consider the books of the Institute have been well and accurately kept.

The estimated balance on the year's working for 1906 was £1,200; the actual balance is now £1,435. 16*s*. 9*d*., largely owing to the increased number of members. Taking into consideration the Congress year and other incidental expenses, roughly amounting to about £670, it leaves us with a satisfactory surplus, which was on the 31st December £2,244. 16*s*. 7*d*., made up as follows:—

	£	s.	d.	£	s.	d.
Cash at Bank ...				74	0	5
Ditto on deposit				2,900	0	0
				2,974	0	5
Less—	£	s.	d.			
Sundry Creditors	228	6	10			
Examination Fees in abeyance	204	15	0			
Subscriptions in advance	296	2	0			
				729	3	10
				£2,244	16	7

We may add that the balance of assets over liabilities is now £18,005. 14*s*. 10*d*., as against £15,699. 7*s*. 1*d*. on the 31st December 1905.

We would again draw attention to the class of Hon. Associates, who now pay £2. 2*s*. on election and £2. 2*s*. a year subscription. We suggest that the entrance fee should be omitted and a nominal subscription of one guinea be charged to cover the necessary annual expenses.

We regret to find a deficit balance in the case of the Grissell Legacy Fund, the Pugin Memorial, and the Tite Legacy Fund, and suggest the adjustment of these items before a material increase occurs.

Up to the present no use appears to have been made of the fund at the disposal of the Saxon Snell and Wimperis Bequests. We also note a large balance, viz., £262, to the credit of the Owen Jones Studentship Fund.

SYDNEY PERKS [*F.*]
W. ARTHUR WEBB [*A.*] } *Hon. Auditors.*

March 1907.

DISCUSSION OF THE ANNUAL REPORT OF THE COUNCIL.

Mr. HENRY T. HARE, *Vice-President*, in the Chair.

The adoption of the Report, having been formally moved by the CHAIRMAN, was seconded by Mr. JOHN SLATER [*F.*].

Mr. WM. WOODWARD [*F.*], rising to speak to the motion, said it had been his custom for many years past to make some comment upon the Annual Report, and he was sorry to say that upon the present occasion he should not be so full of commendation with regard to the affairs of the Institute as he was last year. Particularly his dissatisfaction would be expressed because—using again the term he had used a few weeks ago in that room—of what he would call the "secretiveness" of the Council of the Institute. They now learned for the first time, and still only in a briefly outlined form, of the work that had been carried on in the Institute during the year. He was of opinion that if the Council persisted in their determination to conduct the important affairs of the Institute without any consultation with the General Body, all they (the members) would have to do, at least all he would have to do, would be to pay his subscription and leave the rest of the business of the Institute and all its affairs to the Council. Doubtless he should be met, as he had been met before, by this observation: that if they had a Council they ought to have thorough confidence in that Council, who should practically be allowed to do what it liked. That, he ventured to say, was not the procedure that should be adopted in the Institute. The proper procedure, he thought, should be that which was adopted in the Borough Councils of this country. He himself was on the Borough Council of Hampstead; he was a member of the Works Committee and of the Valuation Committee of that Council. When the Works Committee, for instance, discussed a subject, they were bound, before taking any action at all, to bring that subject before the General Council for their commendation, for their criticism, for their support, or for their

rejection. He ventured to say, particularly because his observations that evening would be addressed to the Council's procedure with regard to public bodies, that the proper course would have been, on the two or three matters to which he should refer, for the Council, before transmitting its communications to those public bodies, to have brought the subject before members either in the JOURNAL for the comment of members generally, or else before a meeting of the General Body, so that members might have offered their criticisms on the procedure proposed. But they had had nothing of the sort; all they had had was the barest outline of what had been done, after irremediable action had been taken. He would, however, leave that question for the moment, and very briefly criticise the Report itself. They all regretted the losses by death, the losses of their elder brethren and of their younger brethren. Among the latter he could not help referring, as it had been so feelingly referred to by the Honorary Secretary, to the loss of Mr. Maryon Watson. With regard to the Gold Medal, he was in thorough accord with the proposal to award the Medal this year to the architect who had been so thoroughly deserving of it. But he should like to ask the Chair, what was the procedure adopted by the Council in selecting the candidate for the award of the Royal Gold Medal? He had looked into the Charter and the By-laws, but he could see nothing in either to guide the Council in the selection of candidates for the honour. He was glad to note that there was a total increase of membership of 190. That was exceedingly satisfactory. With regard to the Examinations, the Report stated that the Council again have occasion to regret that so large a number of Students remain on the list without proceeding to the Final Examination. That led him to an observation which he made last year as to whether these Examinations were not rather too stiff. Bearing in mind the examination for Students in the first stage and that for young men entering the profession in the final stage he thought from the list of questions he had seen that they were rather too severe, and that consequently young men who had passed the Intermediate Examination were deterred from coming up for the Final. With regard to the reference to their Past Presidents' portraits, if he might venture to criticise painting, he should like to see a little more portrait and a little less painting! He quite agreed with the Council urging a return to the practice of appointing practising architects of high standing for district surveyorships. From his own experience of district surveyors who were at the same time practising architects, he was quite of opinion that they were the men to be appointed to such an office, and he was glad the Institute were taking steps in that direction. But here was another instance of what he had before remarked upon. On 22nd April a deputation from the Institute Council had laid before the Building Act Committee of the London County Council their views as to the status of district surveyors. Taking the actual words, it was not clear—probably it was a little carelessness in writing—whose views were laid before the Building Act Committee; but, apart from that, here was an instance where members ought to have been apprised of this "deputation." Surely that was a subject on which the General Body should have been consulted, or informed that a deputation was about to wait upon the London County Council. With regard to the Palace of Peace referred to on page 54, there again he complained of paucity of information. Mr. Collcutt had evidently made a confidential report to the Council. Of course, they did not know the nature of that report, or it would cease to be confidential; but they were told that Mr. Collcutt had read a confidential report to the Council criticising the awards, and that the Council had before them an invitation from a Dutch Committee to co-operate in a movement of protest. But not a word was said as to the nature of the protest. With regard to finance, they were all glad to find that £3,000 had been invested this year, which brought up the invested capital to £21,000. That was a most satisfactory condition of affairs, and it led one to anticipate that the day was not far distant when they should be able to start a building of their own. Coming to the report of the Art Standing Committee, he thought members would agree that that report was not brimming over with information. In fact, if anyone could find any real information in that report, he should be very pleased to hear it. He noted the Committee "have under consideration a scheme dealing with prospective public improvements in London with a view to assisting the promoters of such work with suggestions which will aid in obtaining a continuity of artistic development throughout London." Nothing was said as to who the promoters were; no indication was given as to the nature of the suggestions which were to be offered to the promoters; and he thought certainly that some idea of the "aid" which the Committee proposed to give to the promoters should have been brought before the General Body. He confessed he did not like so much "aid" of this Royal Institute to promoters of such work. The Literature Standing Committee simply told them of the very satisfactory condition of the Library; and he would pass on to the Report of the Practice Standing Committee. Here there was a reference to the revision of the Institute Scale of Charges, and that, it was stated, was now before the Council. He did hope that before anything definite was done in the way of revision of the Scale of Charges the draft would be brought before the General Body. There was a reference, again, to the Institute Form of Contract. They were all in hopes that, after years of squabbling between themselves and the Institute of Builders, they had arrived at a settlement. That, apparently, was not the case. The reference, however, to his mind, conveyed nothing. The Practice Committee also had a reference to the case of *Lanning* v. *Davey and Salter*; but it did not say what the case was; it gave no information whatever, except that there was such a case. Surely it would have been interesting for their 2,000 members to know what the case was about, and why the Committee were considering it. Finally the Practice Committee's report said: "Various communications from members of the Institute and others, also from public and professional bodies, were referred by the Council to the Committee, in most cases asking for advice." But not a single idea was given as to who the bodies are, or of what the nature of the advice asked was, or the nature of the advice given. Coming to the Report of the Science Standing Committee: the work of that Committee seemed to have been of an entirely negative character—with the exception that the standard specification for cast-iron pipes had been published! The whole of the Report was of a negative character with the exception of that one paragraph. He should like to ask what was the use of publishing such a report. The auditors' report was satisfactory, because it told them of the satisfactory character of the finances of the Institute. He agreed with the suggestion of the auditors that the entrance fee of Honorary Associates should be omitted, and their subscription reduced to one guinea. He could have said a great deal more on this report, but he proposed to confine himself entirely now to the County Hall Competition. Before coming to that, however, he should like to do what he had done on former occasions, and as to which he should have the full assent of all the members, present and absent, viz., to thank the officers of the Institute for their courtesy towards the members, and for the information which was always placed freely at the disposal of members. He could only hope that the congratulations and compliments which had been paid to their Secretary in another direction would not lead him to forsake that place in the Royal Institute which they so much liked to see him fill. These commendations he proposed to extend to Mr. Tayler and to Mr. Northover, and also to Mr. Dircks, who was most energetic in affording all information connected with the Library. Coming to the County Hall

Competition, he asked their indulgence, because he wanted to illustrate clearly what he termed the "secretiveness" of the Institute Council, and, as this competition was certainly the most important during his lifetime, and probably the most important during the lives of many present, he thought that a little occupancy of their time, giving the history of the procedure of the Institute and of the London County Council, would not be absolutely wasted. He found that on the 26th July 1905—that is to say, almost before the echo of the voices of the members of the London County Council who determined to institute the competition had died away—the Council of the Institute had addressed a letter to the Clerk of the London County Council. He must compliment the writers of these communications on the epistolary excellence to which they had attained. He would give the Meeting the pith of it. He had the whole of the correspondence and papers with him, and if they doubted the accuracy of his *précis*, he should be pleased to produce the correspondence. In that letter, after alluding to the opportunity of "fostering the arts and crafts of the day," they offer the London County Council "their assistance how best to attain these objects"; and having incidentally mentioned that they did the same thing for "His Majesty's Government," "my Council hope that the same much appreciated privilege may be afforded them by the London County Council." He did not intend, if he could help it, to use one word to rouse the ire of any member of the Institute; but with regard to the "much appreciated privilege" he would note the fact that the result of the much appreciated privilege was the employment of their late deeply regretted friends, Mr. Brydon and Mr. William Young, to carry out those magnificent buildings in Whitehall. That, he presumed, was "the much appreciated privilege" to which the Secretary referred in that letter. On the 22nd February 1906 the Clerk to the London County Council wrote to the Secretary a very polite letter on behalf of the Establishment Committee for the offer of assistance contained in the letter of 26th July 1905. On the 6th of March 1906 the Secretary wrote to the Clerk to the London County Council thanking him for his letter of the 22nd February, and asking him to convey to the Establishment Committee their sincere appreciation, &c.; that the "Art Standing Committee" had sent in "recommendations," and that a "special Committee of the Council" would lay their suggestions before the Establishment Committee. On the 3rd April 1906 Mr. Alexander Graham and Mr. Locke wrote to the Clerk of the London County Council that they had given most careful consideration to the letter of the 22nd February, and they go on: "Our Council consider that the only way of securing a really broadly treated and fine work such as the London County Council naturally desire is to obtain by some means or other a strongly individualised personality to deal with the problem under properly defined conditions." That was the epistolary excellence to which he referred earlier. "The method most likely to achieve this result is to institute a competition." They support a "preliminary and final competition," and think, "with the view to securing that some of the leading architects shall take part in the competition, six shall be invited to compete in the final stage," and as they hope the suggestions will commend themselves to the London County Council they "venture to append the heads of a scheme for giving effect to the principle" He (the speaker) would remind members that they had never heard a word of all this until now. In the Council's Annual Report for 1905-06 a paragraph (page 349, JOURNAL, 12th May 1906) appeared, shortly stating that the Council had offered assistance to the London County Council, and that they had advised "a combined open and invited competition to be judged by a jury of Assessors." The heads of course were not then published. He maintained that the heads of that scheme should have been brought before the General Body, and should have been published in the Institute JOURNAL. Members would then have had an opportunity of saying what they had to say. Why was not that communication published? The Art Standing Committee in the same report inserted a short paragraph to the same effect. In his observations on the Annual Report last year [page 361, JOURNAL, 12th May] he seemed to have had some misgiving as to this business, and had expressed the hope that the Institute would not nominate or suggest in any way whatever the names of members of the Institute to take part in a limited competition. He was then quite in ignorance of the suggestion made in the letter of 3rd April 1906 as to the six leading architects. In the discussion on "Limited Competition for Public Buildings" [JOURNAL R.I.B.A. 16th June 1906] Mr. Edwin T. Hall observed: "To show that the Council were quite in sympathy with the spirit of this motion, when they were asked to advise the London County Council with regard to the competition for the New County Hall the Council unanimously voted for an open competition. That was done to give every young man a chance." "They also suggested," Mr. Hall said, "that a few others should be invited." He wondered Mr. Hall did not tell them, in making that communication, that it was six of the leading architects, as well as a few others; but he did not tell them that. In the JOURNAL for 28th July 1906—he wanted the Meeting to pay particular attention to that date—under the heading "The New London County Hall," a paragraph appeared stating that the Establishment Committee of the London County Council, "after giving careful consideration to the suggestions of the Royal Institute, and also to the report from the Architect of the Council, on the courses which could be followed, recommend that the Council should have a competition on the lines following"—which everyone now knew. Then the Committee recommend that there should be two Assessors for the preliminary stages of the competition and three for the final; and that "Mr. W. E. Riley, the Council's architect, and Mr. Norman Shaw, R.A., should be nominated to act in both stages, and that the competitors in the final stage should vote for the third Assessor, who will act only in that stage." The paragraph went on to say that, "following the principle recognised by Government departments in the buildings for the War Office, the Local Government Board, and the Admiralty, it is proposed to make it a condition that the successful competitor, if appointed, shall collaborate with the Council's official architect, who should have discretionary power in all matters relating to the internal economy and construction of the building." That was on the 28th July 1906. They must bear that date in mind. On 22nd November 1906 Mr. Locke wrote to the Clerk of the L.C.C.: "In view of the supreme importance," &c., asking for "a copy of the plan of the site," "so that they may offer suggestions before the conditions of the competition are finally drawn up." He (Mr. Woodward) wanted the Meeting to note that in that communication of 22nd November not a word was said about Mr. Riley. He would refer to that again directly. On 5th December 1906 the Clerk of the L.C.C. wrote to the Secretary R.I.B.A. a very polite letter regretting that the Establishment Committee of the L.C.C. "are unable to take advantage of the offer, as the Committee have almost concluded their consideration of the conditions which will shortly be submitted to the Council for its approval." The Clerk to the L.C.C. sends with the letter "an extract from the Minutes of the Council showing the outlines of the competition which was approved by the Council on 31st July 1906." That was an instance of what might be called absolutely unnecessary interference with a public body. The question of the plan, the question of the surroundings of the site, and the position of the buildings upon the site were all matters for the competitors. There was no necessity whatever for the Institute Council to send in and ask for the plan in order that they might give their advice or assistance in regard to it. In the JOURNAL for 22nd December 1906 (p. 123), under the heading "Chronicle," there was a paragraph setting forth the fact that some recommendations

of the Establishment Committee of the L.C.C. had been made public; that, *inter alia*, there were to be two Assessors, Mr. Norman Shaw and Mr. Riley, and that the Establishment Committee recommend that eight architects be invited to submit designs in the final competition —viz., Messrs. John Belcher, William Flockhart, Ernest George, Henry T. Hare, T. G. Jackson, E. L. Lutyens, E. W. Mountford, and Nicholson & Corlette. The paragraph goes on: "The successful architect would be assigned the work of carrying out the design in conjunction with the Council's architect, the successful architect receiving nine-tenths of the usual commission of 5 per cent., and the Council's architect receiving the remaining one-tenth." That was the communication brought before the Institute, and following the lines of which the Institute was thoroughly conversant in the previous correspondence. On 7th January 1907 (JOURNAL, 12th January 1907, p. 152, *et seq.*) he (Mr. Woodward) directed the attention of the Institute to the fact that the eight selected architects were to send in their designs three months after the preliminary designs had been sent in, and that seven of the eight selected architects were members of the Institute. He did not suggest on the previous occasion when he had referred to this matter, and he was not going to suggest now, that any selection was made by the Institute, although reference was made to it in a paragraph to which he should presently refer. He never made a suggestion that the object of the Council in meddling with public bodies was to introduce to those public bodies any member of the Council or of the Institute, but it was a fact that, whatever the object of the Council was, six out of the eight selected finally by the London County Council were members of the Institute Council, seven of the eight were members of the Institute, and there was only one asked who was not a member of the Institute. Whatever the object was, the result was that the interference of the Council of the Institute with public bodies had resulted in the selection of members of the Council for the important works in question. The heads of the competition scheme were appended to the letter of 3rd April 1906, which letter was at the request of the President brought up and read at the meeting of 7th January 1907. Not until that meeting of 7th January 1907 had any of the two thousand members of the Institute any knowledge at all of the correspondence that he had just been referring to. It was only when the President asked the Secretary to read the letter suggesting that the Council should give the heads of the final competition that they heard anything about it. So far as he was concerned, had he known what had taken place at the Institute he should probably have made the observations which had occurred to him since, and they would probably have been observations which would have prevented the Council falling into the unfortunate result which they had fallen into by their unnecessary meddling. The main features, then, of this R.I.B.A. scheme are as follows:—(1) A Preliminary and Final Competition. The Preliminary, open to "all architects"; the Final, to ten selected designs, and six of the leading architects to be invited by the L.C.C. The Preliminary sketches were to be drawn to a scale of "32 feet to the inch, the Final to $\frac{1}{4}$ inch to the foot." Evidently very carefully thought-out detail this! (2) The "jury of Assessors" to consist of (*a*) one to be appointed by the competitors in the Preliminary Competition. This one to be appointed by the Preliminary competitors themselves. (*b*) The Superintending Architect of the London County Council; (*c*) an architect appointed by the President R.I.B.A. (3) "The architect whose design is selected as best by the Assessors in the Final Competition shall be appointed as architect for the new building, unless there shall be in the opinion of the Assessors any grave reason to the contrary." On 12th January 1907 the Secretary of the Institute wrote to the Clerk of the London County Council suggesting the extension of time to nine months, of which six shall be devoted to the first competition. In the JOURNAL of 26th January 1907 (p. 203) there was a note that the London County Council had adopted the suggested addition of one month. In the JOURNAL of 9th February 1907 (p. 225) the Conditions of the new County Hall Competition, as passed by the London County Council at their meeting on 5th February, were published. In the JOURNAL of 23rd February 1907 (p. 291) the date was announced for the delivery of the designs for the first stage—both Foreign and English—as noon on 27th August 1907. In the JOURNAL of 9th March 1907 (p. 336, *et seq.*) he (Mr. Wood ward) directed attention to what he termed the secretiveness of the Council respecting its communications with the London County Council in regard to the new County Hall Competition. He did not know so much then as he knew now about that competition, and Mr. E. T. Hall, who was in the Chair, in defending the Council of the Institute said that in "this instance the London County Council had asked, not the Royal Institute, but the Council of the Royal Institute, to make suggestions." Was that a correct statement after what he had just read? The words of Mr. Hall were that the L.C.C. had asked the Council to make suggestions. But, as he (Mr. Woodward) had already told the Meeting, it was in 1905, before the echo of the voices of the L.C.C. had died away, that that letter, full of that epistolary excellence to which he had already referred, was written. Further, Mr. Hall said this: "As a matter of fact, the gist of what was being done was published in the JOURNAL, and was referred to at the last Annual Meeting. If Mr. Woodward had read his JOURNAL he would not have been ignorant of what was going on." It was only when he (Mr. Woodward) got to the correspondence which he had had the pleasure of reading which passed between the Council of the Institute and the London County Council that he had any knowledge, not only of the gist, but any knowledge of the barest outline of what the Council had been doing. In a letter dated 26th March 1907 the Secretary of the Institute wrote to the Clerk of the London County Council calling attention to the statement of the London County Council that "the conditions of the competition have been approved by the Royal Institute of British Architects" and that "these conditions have never been submitted to their consideration." The Secretary in this letter drew particular attention to Instructions 8 and 9. Instruction 8 (*vide* JOURNAL, 9th February 1907) provides that the official architect is to have "discretionary power in all matters relating to internal economy, building construction, and stability," while he is to have conjoint authority with the architect in superintendence and in certifying for payments. The Council of the Royal Institute of British Architects feels "that it is against the public interest that any part of the responsibility of the selected architect for carrying out the whole building which he has designed should be withdrawn from him." He should make a brief reference to that now, but how the employment of Mr. Riley, with his intimate knowledge of the requirements of the London County Council, could in any way be against the public interest he should ask the members of the Council, or the Chairman of that meeting, to define. Was it detrimental to the public interest that a man like Mr. Riley should be employed, and that the whole responsibility rather should be on the selected architect? The whole responsibility was not taken away from the selected architect. On the contrary, he had the assistance, and the very able assistance, he ventured to say, of a man who was thoroughly acquainted with the requirements of the L.C.C., and would save the selected architect an immense amount of trouble in the carrying-out of the work. Instruction 9 of the Conditions merely referred to the payment—viz., 5 per cent. on the total cost of the completed building, divisible between the two architects in the proportion of nine-tenths to the successful architect and one-tenth to the Council's official

architect. The Secretary in his letter to the County Council said nothing definitely about Condition 9, but referred to Conditions 8 and 9. The Council mentioned the objections they had to Condition 8, but said nothing about the objection they had to Condition 9. As Condition 9 was merely a question of payment, he could scarcely believe that the assistance which Mr. Riley would give to the architect selected for the job was not worth more than £4,000 when the architect who carried out the work would have £36,000. The architect, with all the assistance he was to have with the planning out of that building to some extent arranged for him, leaving him only the preparation of the designs and details of the building, would, he thought, be well rewarded by receiving £36,000, and particularly when a sum of only £4,000 was to go to Mr. Riley, because if Mr. Riley was to be joint architect he certainly ought to have a joint ownership in the emolument, and therefore he would have £20,000 instead of £4,000. Then the Council, in the letter he was referring to, went on to say that they urgently press upon the consideration of the London County Council that Instructions Nos. 8 and 9 should be amended so as to appoint the successful competitor as sole architect, and to provide for Mr. W. E. Riley, the official architect, to act as consulting architect. Further, the letter refers to the "well-established principle of the Royal Institute of British Architects binding on all its members that no Assessor shall accept the appointment to act as architect to carry out a building the designs for which he has to adjudicate." The established principle, of course, was that set forth in Clause 3 of the Regulations for Competitions issued by the Institute. On 23rd April 1907 Mr. Locke, in a further letter to the London County Council, referred to a note in the *Daily News* stating that the London County Council was not committed to the scheme for the building of the new County Hall, and urging the London County Council to come to an immediate decision in the matter. No reply from the London County Council had apparently been received to these last two communications. He (Mr. Woodward) really did not wonder at it, for this was an instance in which he knew that if such communications came to the Borough Council at Hampstead, not only would they not reply, but the Town Clerk would be probably requested to write to the Council of the Institute and beg them not to trouble them with any more of their communications. If members referred to the JOURNAL they would see now the position in which the Institute had placed itself. The Council, referring to this matter in their Annual Report, said: "The London County Council drew up the conditions on the lines indicated in the original suggestions of the Institute Council referred to in the last Annual Report, but several important modifications were made, and the details embodied in the Conditions which were finally issued were not submitted to the Institute Council." He had already said—and he was prepared to prove—that the main lines of the conditions of that competition were suggested by the Institute Council and carried out by the London County Council. He could prove that up to the hilt. "In these original suggestions," say the Institute Council in their Report, "the Institute Council did not contemplate the international character of the competition, but, acting on the advice of the Competitions Committee, refrained from making any representations on the subject when the intention of the London County Council became known." But it would be found on reference to the Conditions that the Council in their suggestions to the L.C.C. had recommended that it should be open to "all architects." That word "all" was referred to when the matter was before them at a previous meeting. Of course "all architects" would include every architect, British or foreign. If they did not mean all, they should have made it clear that architects of other countries were to be excluded. The Council's report goes on: "At the suggestion of the Institute the London County Council has extended the whole time required for the preparation of drawings to nine months, of which six are to be devoted to the preliminary stage. The Institute Council have also addressed a communication to the London County Council protesting against the appointment of their official architect in the dual capacity of Assessor in the competition and joint architect to the building." Members present, continued Mr. Woodward, were all practical men; they knew the history of this case; they knew what an Assessor was; they knew what a joint architect was; and they must bear in mind the exact position of Mr. Riley with reference to this matter. Clause 3 of the Regulations for Competitions above referred to was no doubt an excellent one, but it could not be held to apply in this case. And why this protest? He supposed he would be told that it was not a protest because of the one-tenth. He should be surprised to hear the Council of the Institute suggesting anything of that sort. He did not believe they would suggest it. If it was not the one-tenth, it was because they proposed to say that Mr Riley was to be the joint architect. He was to be nothing of the sort, and there could be no question that the position Mr. Riley was to occupy was, as he (Mr. Woodward) had said at the meeting, without knowing anything of the correspondence, to sit at the side of Mr. Norman Shaw and the other Assessors and give the advice which only he could give as to the particular domestic requirements of the building to be erected. They could not by any straining of the English language, by any straining of common sense, suggest that Mr. Riley was acting as Assessor and joint architect in this matter. Therefore he ventured to suggest that the protest which had been sent to the London County Council was most unfortunate. The Institute Council had had their way from the beginning. The London County Council had very judiciously, he thought, adopted the Institute Council's suggestion in 1905 as to the heads of this competition, and if the Conditions of the competition were read now they would find that the main heads of it were precisely on the lines the Institute Council had suggested, and at an early date they had been carefully apprised by the London County Council of the appointment of Mr. Riley. The Institute Council knew this; they had opportunities time after time when he (Mr. Woodward) was speaking in that room, and in their subsequent negotiations in November 1906 they had a splendid opportunity to say what they had said only recently with regard to the appointment of Mr. Riley. He did not know quite how to conclude—whether to conclude with a motion, or whether to get the sense of the Meeting. But he did say most earnestly that he hoped the Council would reconsider what they had said to the London County Council; that they would think that after reviewing all the facts of the case, looking at them as they are, and not attempting to play either upon the word "Assessor" or "joint architect," they had come to the conclusion that they had in this instance committed an error, and that they would withdraw the protest they had sent. He felt sure that if the 1,500 or 2,000 members of the Institute were present, and they were thoroughly acquainted with what had taken place, a very large majority of them would say that the Council ought not to have made this "protest"; they ought to have been satisfied with the position the London County Council had taken up, that they had every confidence that Mr. Riley could not exceed his duties, because, if they read carefully the terms of the competition, they would find that he had to report to his own Council, which showed conclusively that his own Council did not intend him to be a joint architect. He was to report to them, and therefore what Mr. Riley would do was what he suggested and what they knew he would do, what the London County Council intended he should do—viz., merely to act as regards the selection of the designs, sitting at the side of the other two Assessors. If they thought Mr. Riley was going to exceed his duty as an Assessor, and that he was the paramount partner in the three, they would arrive at a wrong conclusion.

Mr. Norman Shaw and the other Assessors to be appointed by the competitors themselves would surely not sit quietly by and adopt any suggestions Mr. Riley might make. Taking all those matters into consideration, he ventured to suggest to the Council that there was no harm in admitting a fault; there was no harm in saying that they had perhaps in this case gone a little beyond what they should have done, and they would certainly do the *amende honorable* if they simply withdrew the protest they had sent and allowed the matter to stand as had been arranged. He could assure the Meeting that he had no interest in this matter whatever. He did not know a soul who was going in for it except the names as published, but he did sincerely hope that for the credit of the Institute they would come to the conclusion, after due consideration, that they should withdraw their protest and let matters stand as they are set forth in the Conditions of Competition.

Mr. H. Hardwicke Langston [A.] asked if the Council had had any reply from the London County Council with respect to the protest addressed to them that their official architect should not fill the dual capacity of Assessor to the competition and joint architect to the building.

The Chairman: No; no reply has yet been received.

Mr. Langston, continuing, went on to read the paragraph headed "District Surveyors" and concluding with the words "urging a return to the practice of appointing practising architects of high standing." Those words "architects of high standing," he considered, suggested a remarkable and almost an invidious distinction. Twenty-five years ago the phrase was "architects of established reputation." What was meant by "architects of high standing"? Did it mean honourable men, and men of proved ability, who could be trusted with the administration of the Building Act? If it meant that, was it expressed better by using those words? Were architects of low standing unless they had a large number of works entrusted to them? Was good fortune to make them of high standing, and bad fortune to make them of low standing? He would suggest the substitution of the original wording. Passing to the paragraph stating that the Council had deemed it advisable to defer consideration of the Ulster Society's application for alliance with the Institute, Mr. Langston said that that might just as well have been left out of the Report altogether for all the information it gave them. He supposed the Council were exercising a sort of discretion in banging the door on the Ulster Society because they found some cause for disagreement with the Dublin Society. He thought they ought to be informed why the Ulster Society should not be allied to the Institute. All architectural societies had been invited to become allied; why should the Dublin architects be the arbiters as to whether the architects of Ulster should be connected with the Institute or not? Mr. Langston next called attention to the statement in the Practice Committee's report *re* the Institute Form of Contract. It was practically admitted, he said, that their Form of Contract had many unfortunate clauses in it which had proved disastrous both to builder and architect, not through incompetency, not through any collusion with the builder, but simply through spite. He referred particularly to Clause 30. That clause was a danger to all architects using this Form of Contract; and any of them might find themselves in the same dilemma as that unfortunate architect who had lost his case in the Court of Appeal. In view of that fact, he would ask the Council to consider the propriety of withdrawing from circulation any further copies of the document, or, at any rate, to attach a printed note to the face of the document stating that certain clauses were doubtful and were under consideration with a view to revision. This course would be only fair to architects who did not know, and would tend to put them on their guard against a dangerous trap. It could not be conceived that the Practice Committee of the Institute of years ago could mean to take away the birthright of the architect, and give way to the demand of the Institute of Builders to the effect that the architect should no longer be an arbiter in any sense as to whether the work he had designed should be carried out according to his conception or not. In conclusion, the speaker urged the Council to stop the circulation of the Form of Contract, or to append a note to it, so that architects could use it with their eyes open, and avoid the pitfall.

Mr. Frank Lishman [A.] said he thought that the Council had scarcely done themselves justice in omitting all reference to the work of the Board of Professional Defence. The Institute were entitled to know that most useful action had been taken by the Board in a case where the Institute Scale of Charges was in question. The matter had come under his own notice, and he knew all the facts. Summonses were issued in the case, and the action was set down for trial; but, owing to the moral backing afforded by the Board of Professional Defence, the charges on the account due to the architect were paid up in full, with costs, a week before the date appointed for the trial. He thought the action of the Board in that case should be brought to the notice of members, that they might see that the Board which was only instituted two or three years ago had not lapsed into limbo, and that another handle might not be given to people who seemed only too ready to deny that the Institute ever did any good. He should like to say that the successful interference of the Board in the case he alluded to was due in great measure to Mr. Gruning, who had given very considerable personal attention to the case.

The Secretary explained that the matter had been brought before the Board of Professional Defence, but before they could take any action worth while reporting to the Council, so as to get the Council's authority to go further in the matter, the action was settled. Hence the matter was not reported to the Council at all, and therefore did not appear in their Annual Report.

Mr. C. H. Brodie [F.] said he should like to make a remark with reference to the Institute Form of Contract. A contract form was like a pudding. One did not know quite how good it was or how bad it was until it was subjected to some sort of trial. Their Contract Form had got into Court, and was upheld. Then the case was carried to the Court of Appeal. The Court of Appeal squelched their unfortunate Contract Form, and gave a judgment showing that certain clauses of that contract were not only not in agreement but were in absolute antagonism. That was the judgment of the Court of Appeal.* As a result of that judgment —and he felt bound to point it out, with all the seriousness that the case demanded— the members of the Institute had been exposed for a considerable time to a very serious risk, and to a risk which they ought not to be called upon to face. As soon as the judgment in the Court of Appeal was published, the circulation of the Institute Form of Contract should have been stopped. He had said that to the Council, and he repeated it in that room. He had gone very thoroughly into the question. He had ceased to use the Form of Contract himself, and he had prevented many of his friends from using it and exposing themselves to this very serious risk. There was no question at all about the risk. He was a member of the Sub-Committee of the Practice Committee which had been dealing with this matter, and he knew what had taken place. But he was exceedingly glad Mr. Langston had brought the matter forward, because it confirmed the action he himself had taken. In conclusion, he wished to say publicly to all the members of the Institute that if they used that Form of Contract they incurred a very, very serious risk.

The Chairman, replying to the points raised during the discussion, said he was sure he was speaking on behalf of all his colleagues on the Council when he said that they valued very highly Mr. Woodward's remarks upon their Annual Report. They considered that the very sound

* Journal, 24th Dec. 1904, p. 136, and *The Times*, 15th Dec. 1904.

common-sense he brought to bear upon it, and the very useful remarks he made were of the greatest value to them, and they recognised that he did this work of criticism probably better than any other member of the Institute could do it, and at the same time he did it in such a charming and good-humoured way that it was difficult for anyone to take offence. The burden of his criticism this year was to some extent similar to his criticism on one or two previous occasions; he complained of what he termed the "secretiveness" of the Council: whether that view of the Council's Report presented itself to other members he did not know. He could only say that there was not the slightest desire on the part of the Council to conceal anything they had done during the past Session. He could only say that if every subject dealt with by the Council were put forward in the Annual Report in a way which would explain exactly what had been done, and the methods by which the conclusions had been arrived at, the Annual Report would become a document of the dimensions of the *Encyclopædia Britannica*. The only thing they could do in a report of this nature was to give a simple indication of the work that had been done—very little more, in fact, than an enumeration of the subjects which had been considered. In every case where it was possible to do so, they would find some indication given of the result which had been arrived at; for instance, the statement about the deputation which waited on the County Council with regard to the District Surveyors. The reference concluded with a clause suggesting a return to the former custom of appointing practising architects. That was a fair sample of the sort of way in which the clauses in the Report were worded, and he suggested that that gave sufficient indication of the upshot of what the Council had done, and what they had recommended. He could assure the General Body that there was not the slightest desire on the part of the Council to conceal anything. In any case where a member of the Institute was interested in any particular subject mentioned in the Report, and on which he desired further information, it was perfectly open to him to come to the Institute, as Mr. Woodward had done in the case of the County Hall Competition, and see the whole of the correspondence, and get all the information he wished on the subject. It was quite impossible to print it all in the Annual Report. Discussing the details of the Report, Mr. Woodward had asked what was the method of procedure in the Council with regard to the nomination of the Royal Gold Medallist of the year. He did not think he should be violating any confidence in telling them the way in which it was done as a rule. Members of the Council were invited to send in the names of suitable recipients to the Secretary, and when that had been done a final selection was arrived at by a ballot in the Council. The next question Mr. Woodward raised was in regard to the Examinations. The Council in their report express regret that so large a number of Students remain on the list without proceeding to the Final Examination. Mr. Woodward's view was that that might probably be due to the examination being too severe. That might be. He (the Chairman) thought that probably one of the causes was that a considerable proportion of pupils, after they had served their articles, probably found they were unsuited for the profession, and therefore did not proceed to the Final Examination. That happened in a great many cases, and it was a state of affairs upon which they as architects ought to congratulate themselves. As to the view that the Examinations were too severe, he could not agree with that at all; it seemed to him that they were not anything like so severe as they ought to be, regarded as an examination qualifying men to practise. The difficulty the Institute suffered from was that it was almost impossible to make the examination as severe as it ought to be, and one hoped that as time went on it would be possible to make the Final Examination a thoroughly practical examination, which when a man had passed would show that he was qualified to practise as an architect. With regard to the deputation to the County Council on the subject of the District Surveyors, that was quite a recent thing, and he thought the Report of the Council explained sufficiently what had been done. Their whole point was that the practice of appointing practising architects should be reverted to. Mr. Langston, referring to this matter, objected rather strongly to the words "high standing." He was sure the Council would not object to accepting Mr. Langston's wording: their intention was exactly the same as his. With regard to the Palace of Peace protest, Mr. Woodward had asked what the protest was about. The Dutch architects, or a number of Dutch architects, were proposing to bring an action against the Committee of the Carnegie Foundation to upset the award on the ground that it was contrary to the instructions of the competition, and ought not to stand, and they had asked the Institute to contribute something towards the expenses of the action. They had also, he believed, approached those who took part in the competition, asking them to contribute. When he was in Holland in the latter part of last year he was shown an opinion of a Dutch counsel on the case, from which it appeared to him that there was very little case for an action, and there was no hope at all for an action to succeed. Most of the members of the Institute would probably agree with him that in an open competition, as a rule, there was very little ground of action for an alleged improper award, unless it was corrupt, and there was no allegation of that kind in the case. The ground on which the Council declined to take any part in the proceedings was that there was no hope of success. In the Report of the Art Committee there was a reference to a scheme for laying out prospective public improvements. Very little was said about that, and probably it was not sufficient to explain what was in the mind of the Art Committee. The reason of that was that the scheme had only just been suggested. The Art Committee had not as yet had a meeting to consider the subject. The idea at the back of that scheme was something on the lines of what was done in America, in Washington, and other cities. That appeared to be a very excellent principle to adopt, and it was on those lines they wished to go in regard to the question of public improvements. The most serious part of Mr. Woodward's criticisms was with respect to the County Hall Competition. Mr. Woodward complained that the Institute generally was not taken into the confidence of the Council before the Council made any recommendations with regard to the conduct of the competition. He was sure that if it had been at all practicable for the Council of the Institute to get the advice of the General Body they would have been only too delighted to have had it. But from the nature of the circumstances it was impossible for anything of the sort to be attempted. In the first place, the communications which came to the Institute from the County Council were to a very great extent confidential communications. The scheme was not initiated; it was not public property. The London County Council asked the Institute Council—not the General Body—for their advice, and it would have been highly improper for the Council to take the only course they could have taken if they wished to have the opinion of the general body of members—viz., to call a general meeting to consider it. If anyone considered the possibility of their having taken such a course, and called a meeting, they would see that it would have been a perfect Babel. They would never have arrived at any conclusion, and would never have been able to make any recommendation at all. There would have been fifty different opinions from fifty different people. It had been a difficult thing, even in the comparatively small body of the Council, to arrive at sufficient unanimity to formulate a practicable scheme. They appointed a small Committee to do it, and the upshot of it was that the Council sent those recommendations, of which members now knew the gist, to the

County Council. Mr. Woodward, as he understood it, entirely approved of those suggestions, and he gathered from his remarks that if they had had a meeting, and the whole body had considered the matter, that those were the very things he would have suggested, because he entirely approved of them. Mr. Woodward did not suggest that he could have improved upon them in any way. Mr. Woodward had found fault with some of the letters which had emanated from the Council at various times in connection with this project. He found fault with the Institute Council writing to the County Council and asking for a plan of the site before the competition was instituted, and he seemed to suggest that it was a stupid and rather a silly thing to do. He did not know whether the Meeting desired any explanation as to what the Council wanted and what their ideas were; but he thought it was generally understood what was meant by it. The Council thought they might possibly make some suggestions as to the shape of the site, or as to the building lines, which might have been of value. Probably some people might consider now that the plan of the site as it was laid out was capable of improvement, and that for such an important building something better than the building lines might perhaps have been devised. That was what they had in their minds, and some of them had an idea that they could have improved upon it. That was all they were trying to do. Possibly, if they had had the plan of the site, they might have come to the conclusion that they could not improve upon it, and then, of course, they should have done nothing. With regard to the status of Mr. Riley, he did not think he was at liberty to say much on that subject, because the Council had written a letter to the County Council, and this had not yet been replied to. The matter, in fact, was *sub judice*, and he did not think he was called upon to give any expression of his own opinion on the subject. With regard to Mr. Langston's question as to the Ulster Society and the Royal Institute of the Architects of Ireland, the reason why the Council had not acceded to the request of the Ulster Society to be affiliated with the Institute was because they had received a very strong protest against such affiliation from the Dublin Society, that is, the Institute of Architects for the whole of Ireland. The view of the Dublin Society was that the Ulster Society was comprised in their province, and that the Institute, recognising the Dublin Society, ought not to recognise another body which they considered to be under their jurisdiction. As there appeared to be a conflict of opinion among the Irish architects on the subject—a domestic quarrel so to speak—the Council of the Institute did not consider that they were called upon to place themselves in a judicial position and to decide which was right and which was wrong, and that was the reason their decision on the subject had been suspended. It was merely suspended until they could have an opportunity either of coming together again and occupying their former relative positions, or of deciding that they were going to be two entirely and totally independent bodies. He thought the Meeting would agree that it would have been highly improper for the Council to have taken any sides in the matter, and that it was much better to leave it in the way the Council decided to leave it. With regard to the Form of Contract it was stated in the report that the Practice Committee had the whole question under consideration, and that the Council authorised the Practice Committee to obtain Counsel's opinion on certain suggestions which they had made for the amendment of the Form of Contract. It would be quite impossible to attach any slip or qualifying document to the Form of Contract at present, because the whole thing had been approved after years of negotiation with the Institute of Builders, and it would be impossible to do anything of that kind without their consent. It would be a most difficult thing, probably a matter which would involve a great deal of discussion, to get any agreement with the Institute of Builders as to any modification of that form. Of course, if after full consideration, and after getting counsel's opinion and the suggestions of the Practice Committee, it should be considered wise and necessary to make these alterations, they should enter into negotiation with the Institute of Builders, and the Form of Contract would be amended. But nothing could be done without their assent. He had, he believed, answered all the questions that had been raised, and he would now put the Report to the vote.

Mr. Maurice B. Adams asked to be allowed to say a few words before the Report was put to the vote. He thought it would come rather pleasantly to allude to something which had given them universal satisfaction during the past year, and that was the success of the Congress which took place last July. He noticed that there was a sum of £600 to their credit on the Congress account—a sum accruing, he thought, from the judicious way in which the Congress had been managed. He had ascertained from the Honorary Secretary that evening that the proposal which was mooted some time ago, that some recognition would be made on behalf of the Institute officials who had assisted so materially in making the Conference the success it was, had not been lost sight of. It would be a satisfaction to others, as it was to him, to know that that proposal was to be realised in some form or another. He did not wish in making these remarks to commit the Council in any way; he only thought it would be a satisfaction to members to know that the officials would be recognised in the way that had been suggested. There was one other point he wished to refer to—viz., with regard to this building contract. With all deference to what had fallen from the Chairman, and without committing themselves to any breach of confidence with the Institute of Builders, he thought that in the meantime it would be very judicious on the part of the Institute not to publish this document any more. In view of the disastrous experience of one of their own members, who, in consequence, had ceased to be a member, he thought that the circulation of the Form should be suspended until some real information was obtained. That, surely, they could do without any breach of confidence, or any breach of good faith with the Institute of Builders. Why could not that be done? Why should they jeopardise their members in the way Mr. Brodie had so graphically put before them? Why was it desired to go on publishing the document if there was any risk—and they knew there was a risk, whatever the counsel's opinion that they were obtaining might be—and whatever the Practice Committee might say? The Court of Appeal had pronounced against the document, and surely that ought to be good enough for them.

The Chairman, replying to Mr. Adams's first point, said that the £600 in hand on the Congress Account was not really net balance; they still had to publish the *Compte-rendu*. With regard to the suggestion that the officials of the Institute who had so great a part in organising the Congress should have some recognition, that had already been done. All the officials of the Institute had received recognition in one form or another some time ago.

Mr. Woodward, rising again, said that before the Report was put to the vote, if he was quite in order, he should like to say what he was sure would be echoed by everyone in that room. He wished to thank the Chairman for the exceedingly courteous and full way in which he had replied to the criticisms on the Report. Nothing could have been more satisfactory, and he ventured to say that what the Chairman had told them that evening, brief and concise as it was, was a complete refutation of what he (Mr. Woodward) had been urging. If the Council had put in their Report what the Chairman had so tersely put from the Chair, he should scarcely have had a word to say.

The Report, having been put from the Chair, was carried unanimously, and the other business of the Meeting was then proceeded with.

SPECIFICATION FOR PAINTS, &c.

By R. J. Angel, M.Inst.C.E. [A.].

[*See page* 481.]

The question of the quality and durability of paint used in architectural work is one of considerable importance, but it frequently happens that there is nothing more binding in the specification than that it shall be composed of a "basis of genuine white lead, free from impurities," to which is added a note that samples may be taken and submitted for analysis. The difficulty usually experienced by the analyst is to know to what standard the sample is to be tested, especially with the various coloured paints of which no mention is made in the specification. To meet this difficulty, and so that the contractor may know the quality of paint, &c., which will be required of him, the writer has obtained particulars of their composition, which give a reliable standard of purity. It is not assumed that the list is by any means exhaustive or complete, but it is herewith submitted for the use of other members, who may find a need for the information.

SPECIFICATION FOR PAINTS, VARNISHES, &c.

(*Percentages calculated on Original Pigments Undried.*)

Description.	Quality.
Turpentine	Refined, genuine American, free from adulteration (optical rotation not less than + 4° 5′ in 100-mm. tube).
Terebine	Finest. One part of terebine, when mixed with 16 parts of linseed oil and spread in a thin layer on a glass plate, and kept at a temperature of 60° F., must dry in 8 hours. To contain not less than 10 per cent. metallic oxides.
Varnishes	All varnishes to be made from the best pure gums and oils, to flow easily, dry lustrous and with a firm coat, in 18 to 24 hours.
Driers	To contain not less than 20 per cent. of lead or manganese preparations.
White Lead	To contain not less than 25 per cent. or more than 30 per cent. hydrated oxide.
Red Lead	To contain not more than 3 per cent. of impurities, to be good colour, smooth, and free from grit.
Ochre	Genuine, of good colour and body. Free from barytes or other base mineral.
Burnt Umber	To contain not less than 45 per cent. oxide of iron and 15 per cent. manganese dioxide. Free from barytes or other base mineral. To be fine, well ground, and free from grit.
Purple Brown	Containing not less than 60 per cent. oxide of iron, good colour, and free from grit.
Ultramarine Blue	Containing not less than 40 to 45 per cent. silica, 20 to 25 per cent. aluminium oxide, 9 to 10 per cent. sulphur. To be fine and free from gritty matter.
Vermilion	Pure sulphide of mercury; ash not to exceed 0·5 per cent.
Venetian Red	Containing not less than 25 to 30 per cent. oxide of iron. Free from barytes or other base mineral. Fine and free from grit.
Indian Red	To contain not less than 97 per cent. oxide of iron. Strong in colour, and well ground.
Sienna Burnt	Containing not less than 70 per cent. oxide of iron. Fine, good colour, and free from grit.
Sienna Raw	Containing not less than 60 per cent. oxide of iron. Fine, good colour, and free from grit.
Chrome, Lemon, and Orange	Pure commercial, of a fine colour.
Brunswick Green	To contain not less than 15 per cent. lead chromate, well ground and good body.
Zinc White	Pure zinc oxide, well made, free from grit.
Lamp Black	Containing 95 per cent. carbon, mineral matter not to exceed 3 per cent. Free from unburnt oil.
Vegetable Black	Containing 97 per cent. carbon.
Prussian Blue	To contain not less than 40 per cent. oxide of iron. Ash must be soluble in dilute acid. Fine and free from grit.
Bronze Green	To contain not less than 10 per cent. lead chromate.
Emerald Green	To contain not less than 28 to 30 per cent. copper oxide and 55 to 56 arsenious oxide.
English Gold Leaf (best)	Unadulterated with any foreign material, and must be supplied to whatever tint is required. 25 leaves per book.
Red Oxide	Containing not less than 65 per cent. oxide of iron. Fine and bright in colour.

The architect will submit such materials as may be necessary, whether included in the schedule or not, to an analyst (to be chosen by the architect) for analysis, and should the report of the analyst indicate that the materials are not equal to the quality or standard specified or ordered, or are not genuine, or do not conform to the specification in any way, the cost of the analysis will be deducted from any moneys due or becoming due to the contractor, and the contractor must, on receiving notice from the architect, remove the rejected articles and supply others equal to the standard specified within two days.

Samples of the materials will be taken on the site, and when in the condition for use on the building. The contractor or his representative will be advised that samples are about to be taken in order that he may be present or be represented. The samples will be divided into three parts, to be then and there separated, and each part will be marked, sealed, or fastened up in such manner as its nature will permit. One part will be delivered to the contractor or his representative, one part will be retained for future comparison, and the third part will be submitted to the analyst. If the contractor or his representative fail to be present, no question will be allowed to be raised afterwards as to the authenticity of the samples should the analyses prove unfavourable.

Communications criticising or extending this specification are invited from members and others.

9, Conduit Street, London, W., 11*th May* 1907.

CHRONICLE.

A Court of Building for London.

The Times of the 29th April published the following letter from the President :—

Sir,—The admirable letter from Mr. John W. Simpson published in your issue of March 29 [see Journal, 13th April, p. 414] dealing with the above subject is of the gravest importance to all owners of property, and the suggested reforms in the conduct of the preliminaries to building operations are worthy of the most careful consideration.

The difficulties, contradictions, and ambiguities of the various Building Acts, with their numerous by-laws, schedules, and regulations, are, perhaps, most patent to architects, who have in this matter to evolve order from chaos, and their task is rendered extremely difficult by the present machinery for carrying out the administration of the law.

Mr. John W. Simpson is to be commended for directing attention to this subject, which, as he says, by the Act of 1905 "has now brought matters to the climax of impossibility," for not only are all projected buildings brought under the domain of this Act, but its retrospective character will have a far-reaching effect on all existing buildings, and it is safe to assume that it will entail the expenditure of many thousands of pounds for which no return can be hoped, either in increased public safety or structural improvement. Its administration is likely to lead to grave differences of opinion between architects, property owners, and the London County Council, and consequent legal expenditure by all parties: and the advocacy of the establishment of a Court of Building for London is an attempt to deal with this complicated problem in a business-like manner.

The Council of the Royal Institute of British Architects are in cordial sympathy with the principle of the scheme so ably put forward by Mr. John W. Simpson; and they have appointed a special committee to inquire into the subject, to gather together information bearing upon it, and, if possible, to suggest the main principles governing the constitution of such a Court, in the hope that their labours will be of service to the whole community. When the Council of the Royal Institute have considered their committee's report, they may again crave the hospitality of your columns for the purpose of laying their suggestions before the public.—I am, Sir, yours faithfully,

Thos. E. Collcutt,
President R.I.B.A.

Proposed Legislation on Town Planning.

The resolution on town development passed by the House of Commons on the 1st inst. should greatly encourage those members of the Institute who have tried to arouse interest in the development of our cities and towns upon lines of reasoned and intelligent design. The haphazard methods of the jerry-builder, tempered by the borough engineer's insistence on "tout à l'égout," have prevailed so long in England as to be almost identified in the public mind with "Habeas corpus" and the liberty of the subject.

It is therefore most gratifying to find the Government of the day accepting, and the House expressing its unanimous agreement with, such a resolution as that of Mr. Whitwell Wilson. That definite proposals may be put forward at an early date is much to be hoped.

The Royal Institute of British Architects should at once recognise its great responsibility in this, which is essentially an architect's, question. Every assistance in its power should be given to the Members of Parliament interested, or engaged, in the beautifying of our cities; and clear and straightforward principles for their guidance should be laid down without delay. It is most desirable that the Institute should take this opportunity of proving its utility to the Legislature and the public as a practical and constructive body. Advice is welcome in the early stages of such a scheme, while the belated criticism of proposals already formulated by others is apt to appear ungracious, and is generally ineffective.

It may be added that the Art Standing Committee has the matter already before it, and will welcome and much appreciate further communications and suggestions from other members of the Institute.

John W. Simpson,
Chairman, Art Committee

The following is the resolution referred to :—

"That, in the opinion of this House, local authorities should be granted by legislation the power of laying out suburbs for building upon a rational plan, which shall include adequate airspace, convenient grounds for recreation, and facilities for locomotion, so preventing the grave evils which result from overcrowding in and around great cities."

Mr. Whitwell Wilson, member for South St. Pancras, in moving the resolution,* commented on the dull monotony in the architecture of our

* The report is from *The Times* of the 2nd inst.

suburban streets and the manner in which houses were pressed close together back to back. What was wanted in the suburbs, he said, was an indispensable minimum of space. Each house should have a certain area of garden space, at least three or four times the size of the house. Each road should have a width of not less than 100 feet, and only so many houses per acre should be erected. There should also be sites available for public buildings, accessible playgrounds, and, as far as possible, the preservation of the rural features of the neighbourhood, which went so far to humanise life. What was wanted to prevent the building of unsuitable suburbs was some legislation on general lines. There came a time when every empire was judged with reference to its cities. At the present time we were building at an enormous rate all over the country. They should remember that they were not building houses merely for rent, or building streets merely for rates. They were really building the supreme destinies of this country, and of the Colonies which hung upon its prosperity.

Mr. Jowett, member for West Bradford, in seconding the motion, said that power must be given to the local authorities, if necessary, to expropriate the owners of land or property which conflicted with the general public interest. He did not use the word "expropriate" in the sense of confiscate; the owners ought to be dealt with on fair terms. As a Britisher, he was sorry to have to admit that we were behindhand in these matters in comparison with other countries. In Germany this subject had already received the most careful attention from the very best men in the country, and for years they had been working on the lines indicated in this resolution. In Germany the State practically compelled localities to own land, and had issued instructions to them to miss no opportunity of getting land into their possession. Here in this country, on the other hand, they had been throttled by the State. In Germany they attended to everything which they could think of as necessary for the public health.

Viscount Turnour said he was to a great extent in favour of this resolution. There was in London and other large towns a great absence of air-space and places for recreation; but he denied that the condition of England, and especially of London, in this matter was much worse than that of other countries.

Mr. John Burns, President of the Local Government Board, said that as a cockney born and bred he could not accept the grey, dismal, melancholy impression of London given by the member for South St. Pancras. If that hon. member's description was accepted, London might be described as a place for workhousing the old, warehousing the women and children, and public-housing the men! He knew no city in the world which for its size was as sober and for its conditions less criminal; he knew no city so healthy, so clean, so much possessed of the crude essentials of sanitary health and physical decency as this great City. He admitted, however, that the conditions under which large numbers of our people lived were not as good as they ought to be, and not so good as they must be. But in the last ten years there had been an extraordinary improvement in taste and appetite on the part of the people themselves for better conditions. There was no country in the world where there were so many comfortable homes, no country in which domestic architecture had developed further. But these amenities were possessed too exclusively by a small class. Their ideals were, however, rapidly extending down to the poorest people, and, in so far as this resolution would enable them to assist their desires, the Government would support it in the strongest possible way. It was the business of those responsible for town government to see that local authorities who were willing should have the means of co-operating with willing private owners to bring about that which had been done by individuals, and he assured the mover of the resolution that to carry out what was immediately pressing he, in accordance with a promise made by the Prime Minister and himself to a deputation, had anticipated the resolution, and he had before him alternative Bills by which he hoped the object of the resolution would be achieved. Provisions were proposed for the laying-out and planning of streets and houses, with conditions to be observed and provisions for arbitration. He could not now define and explain the intentions, but he hoped that their Town Planning Bill would meet with general acceptance; and meantime he cheerfully accepted the resolution.

Contributions for the Journal: a Member's Suggestion.

The following letter addressed to the Chairman and Members of the Science Standing Committee by Mr. R. J. Angel [*A.*], a member of that Committee, has been handed in for publication:—

GENTLEMEN,—It has occurred to me, as no doubt it has to other members of the Institute, that among the 2,000 Fellows and Associates, the numbers are few who take any active part in contributing to the general interest of the Society. On the other hand I cannot but think that there must be a vast amount of research, experience, and practice widely distributed among members, which would be invaluable to the profession if such were communicated in that spirit of fraternity which unites a great body like ours. I am of opinion that this store of knowledge is of a greatly varied character, differing with the various branches of the profession and the tastes of members. I venture to suggest that a channel should be opened whereby much of this information should be encouraged and communicated to members. I am aware that many would hesitate to write a full-length article or a paper to be read at the Institute meetings, and no doubt many of the

subjects have not sufficient matter in them for such a purpose. My suggestion is that members be specially invited and encouraged to contribute to the Institute JOURNAL short articles of a length of, say, up to five hundred words or thereabouts, upon any subject of professional interest. These articles might consist of research, a disquisition on a subject of Art or Science within the profession, some item of professional practice, some new method of application in building, a success or failure in a building and its cause, or a description of doing certain work, &c. These articles might be contributed over the author's signature, or else, when describing a defect in a building, they may be accompanied by a pseudonym. When received by the Institute these communications should be considered by the various Committees, such as the Art, Literature, Practice, and Science, and if found suitable they could be printed under the head of "Selected Papers," or some such title, in a portion of the JOURNAL set apart for this purpose. I feel that the invitation to contribute these special articles should find a permanent place in each issue of the *Supplement* which accompanies every copy of the JOURNAL, so that the subject may be constantly kept before the members. By this means I believe that the general interest will be aroused of members who, on account of their distance of residence, cannot attend the Institute Meetings, and this mutual exchange of information will be beneficial to the profession as a whole.—Yours truly,

ROBT. J. ANGEL.

The various Standing Committees have had this letter before them, and have signified their readiness to co-operate in giving effect to Mr. Angel's proposals. Mr. Angel himself makes a beginning in the present number with a useful contribution on a practical subject—"Specification for Paints," &c. [p. 479]. It remains only to add that communications of a similar nature, addressed direct to the Editor, or received through the medium of the Standing Committees as suggested by Mr. Angel, will be very gladly welcomed and accorded prominent place in the JOURNAL. Such articles as these, it need hardly be said, besides being of value to the practitioner from the information they convey, would often be the means of rousing interest on a subject of practical importance, and of eliciting the views of those who may have specially studied it or whose experience entitles them to speak with authority upon it.

The Safety of St. Paul's.

The Main Drainage Committee of the London County Council report the receipt of the following memorial with reference to the construction of the new main sewer from Trafalgar Square to Barking, which it was proposed should pass under the south side of St. Paul's Cathedral:—

Chapter House, St. Paul's Cathedral.

To the London County Council,—

The memorial of the undersigned, being the trustees and the Dean and Chapter of St. Paul's Cathedral, sheweth—That grave doubts have recently arisen as to the consequences of the new sewer which it is proposed to construct under St. Paul's Churchyard, on the south side of St. Paul's Cathedral; that the consideration of this question has for some time past engaged the most serious attention of the Dean and Chapter and their advisers; that, since the last communication which passed between the London County Council and the representative of the Dean and Chapter, more facts have come to light, and new measurements have been taken; that the Dean and Chapter and their surveyor have had the advantage of the careful advice of three architects of the highest experience and reputation—Mr. T. E. Collcutt (President of the Royal Institute of British Architects), Sir Aston Webb, R.A. (past President), and Mr. John Belcher (past President)—and that they have furnished them with a report; that your memorialists have the honour to submit this report, and ask for its due consideration at the hands of the London County Council; that they are aware that the Bill for the proposed line of the sewer has received Parliamentary sanction, but that they consider that the gravity and urgency of the matter compel them to ask for a reconsideration of the case; and that your memorialists are strengthened by the belief that there is no question of serious public advantage involved which would cause the proposed line to be adopted rather than any other line between St. Paul's Churchyard and the river. And your memorialists will ever pray, &c.

(Signed) Randall Cantuar., W. P. Treloar (Lord Mayor), A. F. London., Robert Gregory (Dean), Henry Scott Holland, William Sinclair, W. C. E. Newbolt.

The Report of the Committee of Architects—Mr. T. E. Collcutt (*President* R.I.B.A.), Sir Aston Webb, R.A., and Mr. John Belcher, A.R.A.—states as follows:—"In accordance with your instructions we have made a very careful examination of the present structural condition of the Cathedral, and the movements that have taken place from time to time, and we have been assisted by the reports of former surveyors and engineers, and we hope shortly to be able to make a full and detailed report on the subject. But in view of the reported imminent construction of a sewer by the London County Council within 45 feet of the south-west tower of the Cathedral, we feel it our duty to furnish an interim report on this particular point, which has become so urgent and pressing. We may premise by pointing out that the three portions of the building that have from time to time shown the most significant points of weakness are the south-west tower and the south-west and south-east

piers of the support to the dome. We find that there have been several proposals to construct a sewer on the south side of the Cathedral in St. Paul's Churchyard. One commenced by the City Corporation in 1831 was abandoned on the danger to the structure being pointed out by the surveyor (Mr. Cockerell), though a sewer was actually constructed on this line in 1843 at a depth below the surface of 6 feet 3 inches (but a smaller one). A tube railway has recently been proposed, but this, for the present, has also been abandoned. The present proposal of the London County Council is to construct a sewer running along the south side of the Cathedral and only 45 feet from the south-west tower at a depth of about 52 feet from the surface, and only 16 feet below the assumed surface of the London clay, and it is contended by very eminent engineers that if the sewer, which we understand will be nearly the size of a tube railway, is constructed in the clay with a shield, and protected by proper precautions and inspection, no harm can come to the Cathedral. It is with great diffidence that we feel compelled to come to a different conclusion. But bearing in mind the great difficulty, if not impossibility, of complete and adequate supervision of a work of this character, and the disturbance that has undoubtedly been caused to surrounding buildings by works of a similar character in London, we are of opinion that the construction of such a sewer so near St. Paul's, after taking into consideration the present sensitive condition of the structure, might very possibly become a very serious danger to the Cathedral fabric, and should therefore be opposed by the authorities by every means in their power, in order to secure another route for this sewer which would be free from any possible risk to the building."

It is satisfactory to state that in view of these representations the L.C.C. Main Drainage Committee have reconsidered the matter, and have decided to adopt an alternative route. The Committee report that they had had under consideration an alternative route by which the sewer would take a course longer than was originally proposed at a greater distance from the Cathedral; and as it appeared that the adoption of this alternative route would not detract from the efficiency of the sewer, but would obviate all question of damage to the Cathedral fabric, they thought that any additional expenditure which might be incurred would be justified, and they had therefore given instructions for the plans and specification for the construction of the sewer to be amended accordingly.

Reinforced Concrete.

The constitution of an International Commission of Inquiry into Reinforced Concrete is announced. The Commission is to be presided over by M. Considère, late Inspector-General of Public Works in France. Professor F. Schüle, Director of the Testing Station of the Zürich Polytechnic, and Privy Councillor Germelmann, of the Ministry of Public Works, Berlin, are to act as Vice-Chairmen.

The current issue of *Concrete and Constructional Engineering* has several well-illustrated articles by eminent authorities on the subject of Reinforced Concrete—two of them by members of the R.I.B.A. Joint Reinforced Concrete Committee, whose Report is to be brought forward by Sir Henry Tanner, Chairman of the Committee, at the General Meeting of the Institute, 27th inst. Mr. Charles F. Marsh, in an article "Fatigue of Concrete and Reinforced Concrete," deals with the series of tests (about 600 in all) undertaken by Professor Van Ornum and described in the Proceedings of the American Society of Civil Engineers. The valuable conclusions arrived at are set out in a very convenient form at the end of the article. Colonel J. Winn, R.E., enumerates in detail "Necessary Precautions in Executing Reinforced Concrete Work." Faulty design, faulty material, faulty execution, either singly or in combination, are shown to be the causes of such failures as have occurred. "If constant supervision cannot be arranged for," says Colonel Winn, "it is well not to embark on reinforced concrete. . . . A fool with a shovel may absolutely defeat the most elaborate calculations involving the calculus." Among other important articles are "Reinforced Concrete in Switzerland," by Professor F. Schule, of Zurich; "The Setting of Portland Cement," by H. Le Chatelier, of Paris; "Reinforced Concrete Wharves and Quays," by W. Noble Twelvetrees.

Special Election to Fellowship.

At the meeting of the Council on Monday, 6th May, the following gentleman, found by the Council to be eligible and qualified according to the Charter and By-laws, was elected to Fellowship of the Institute under the proviso to By-law 9:—

WILLIAM CARTER FENTON, President of the Sheffield Society of Architects, of 10 Paradise Square, and 111 Union Road, Sheffield.

Weymouth Pier Pavilion Competition.

The Corporation of Weymouth have issued Conditions for the above competition.

The Pavilion is to cost £8,000, exclusive of foundations, lighting, seating, and heating.

The sum of 100 guineas will be awarded for the selected design on the award of a qualified professional man to be appointed to assist the Corporation.

The selected design will become the property of the Corporation, and the design is to be accompanied with full detail plans, sections, specification, and perspective view, the whole drawn to a scale of 8 feet to 1 inch, with quantities and *bona fide* tender of the cost of the Pavilion.

Comment on the above Conditions is needless;

and unless the promoters bring their competition into line with the Institute Regulations, members are requested not to enter for this competition.

THE ANNUAL ELECTIONS.

New Nominations.

The following nominations have been made by subscribing members in accordance with By-law 30 :—

As Member of Council :

MAURICE BINGHAM ADAMS [*F.*].

Nominated by G. F. Bodley, R.A. [*F.*], F.S.A., Royal Gold Medallist; Sir William B. Richmond, K.C.B., R.A., F.S.A. [*Hon. A.*]; Sir Thomas Drew, LL.D. [*F.*], President R.H.A., Dublin; Sir John Taylor, K.C.B., Past Vice-President [*F.*]; Sir R. Rowand Anderson, LL.D. [*F.*]; Alfred W. S. Cross, M.A. [*F.*], Member of Council; William Flockhart [*F.*], Member of Council; Ernest George [*F.*], Royal Gold Medallist, Past Vice-President, Member of Council; James S. Gibson [*F.*], Vice-President; J. Alfred Gotch, F.S.A. [*F.*], Member of Council; Edward Augustus Gruning [*F.*], Past Vice-President, Member of Council; Charles Edward Mallows [*F.*], Member of Council; Ernest Newton [*F.*], Member of Council; Ed. William Mountford [*F.*], Member of Council; William Alfred Pite [*F.*], Member of Council; Andrew Noble Prentice [*F.*], Member of Council; G. H. Fellowes Prynne [*F.*], Member of Council; Wm. Ed. Riley [*F.*], Superintending Architect L.C.C.; Rowland Plumbe [*F.*]; Wm. M. Fawcett, M.A., F.S.A. [*F.*], Past Vice-President; Cole A. Adams [*F.*], Past Member of Council; Professor Frederick M. Simpson [*F.*], London University; P. H. Tree [*F.*]; E. M. Bruce Vaughan [*F.*]; E. Swinfen-Harris [*F.*].

As Associate-Member of Council :

CHARLES EDWARD HUTCHINSON [*A.*].

Nominated by Frank M. Harvey [*F.*], H. V. Lanchester [*F.*], E. A. Rickards [*F.*], Alfred W. S. Cross [*F.*], A. Saxon Snell [*F.*], George Hubbard [*F.*], R. Fabian Russell [*F.*], William H. Burt [*A.*].

As Members of the Art Standing Committee :

EDWIN ALFRED RICKARDS [*F.*].

Nominated by Fredk. Chatterton [*A.*], Albert W. Moore [*F.*], James S. Gibson [*F.*], W. G. Wilson [*F.*], A. R. Jemmett [*F.*], Arnold S. Tayler [*A.*], H. V. Lanchester [*F.*], Alfred W. S. Cross [*F.*].

WILLIAM GILMOUR WILSON [*F.*].

Nominated by Alfred W. S. Cross [*F.*], E. A. Rickards [*F.*], A. R. Jemmett [*F.*], James S. Gibson [*F.*], Albert W. Moore [*F.*], Arnold S. Tayler [*A.*], Frederic Chatterton [*A.*], Herbert W. Wills [*A.*], K. Gammell [*A.*].

As Member of the Science Standing Committee :

ALBERT WALTER MOORE [*F.*].

Nominated by H. V. Lanchester [*F.*], Frederic Chatterton [*A.*], W. G. Wilson [*F.*], Arnold S. Tayler [*A.*], A. R. Jemmett [*F.*], James S. Gibson [*F.*], K. Gammell [*A.*].

ERNEST WILLIAM MALPAS WONNACOTT [*A.*].

Nominated by Max Clarke [*F.*], Matt. Garbutt [*F.*], Lewis Solomon [*F.*], Francis Hooper [*F.*], Wm. F. Young [*F.*], A. Saxon Snell [*F.*], R. Stephen Ayling [*F.*].

MINUTES. XIII.

At the Seventy-third Annual General Meeting (being the Thirteenth General Meeting of the Session 1906–07), held Monday, 6th May 1907, at 8 p.m.—Present: Mr. Henry T. Hare, *Vice-President*, in the Chair, 26 Fellows (including nine members of the Council), and 28 Associates (including 1 member of the Council), the Minutes of the Meeting held Monday, 22nd April 1907 [p. 456], were taken as read and signed as correct.

The Chairman formally presented the Annual Report of the Council for the official year 1906–07, copies of which had been issued to members with the previous number of the JOURNAL.

The adoption of the Report having been moved by the Chairman and seconded by Mr. John Slater [*F.*], Mr. Wm. Woodward reviewed the Report at length, and complained of the want of information it afforded of the transactions of the Council. Mr. Woodward further criticised the Council's action in respect of the London County Hall Competition, and in support thereof read a *précis* he had prepared of the correspondence which had passed between the London County Council and the Institute Council.

A suggestion by Mr. H. Hardwicke Langston [*A.*] to substitute the words "architects of established reputation" for the words "architects of high standing" in the clause relating to "District Surveyors" was accepted by the Chairman.

Messrs. H. Hardwicke Langston [*A.*], C. H. Brodie [*F.*], and Maurice B. Adams [*F.*], referred to the effect on the Institute Form of Contract of a recent decision of the Court of Appeal, and urged the withdrawal of the Form from circulation pending revision.

The Chairman having replied to the various points raised during the discussion, the Report was finally put for adoption and passed without dissent.

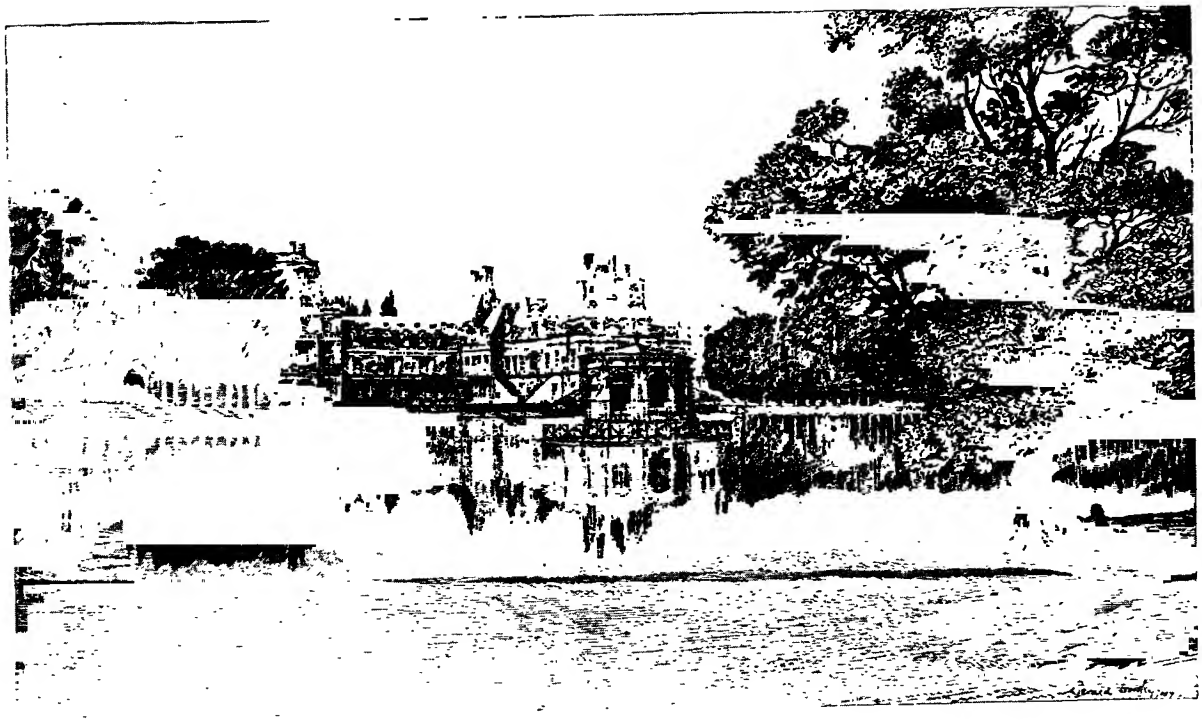
On the motion of the Chairman a vote of thanks was passed to Messrs. Sydney Perks [*F.*] and W. A. Webb [*A.*] for their services as auditors of the past year's accounts, and Messrs. H. P. Burke Downing [*F.*] and A. W. Sheppard [*A.*] were nominated auditors for the ensuing year.

The Meeting authorised the Council to appoint Scrutineers to direct the election of the Council and Standing Committees for the year of office 1907–08, and to report the result thereof to the Business General Meeting of the 10th June.

The members of the Statutory Board of Examiners were reappointed to serve on the Board for the ensuing year.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election :—As FELLOWS (20): Otis Dudley Black (Liverpool); Albert Thomas Butler (Cradley Heath); Sidney Burgoyne Caulfield; Philip Boughton Chatwin (Birmingham), Percy Heylyn Currey (Derby); Frank Brookhouse Dunkerley [*A.*] (Manchester); Nicholas Fitzsimons [*A.*] (Belfast); David Theodore Fyfe Leslie William Green [*A.*]; John Hartree (Hereford); Hugh Taylor Decimus Hedley (Sunderland); William Murthwait How; Philip Mainwaring Johnston; Walter Scott-Deakin (Shrewsbury); Willie Swinton Skinner (Bristol); William Stewart; Henry Tanner, jun. [*A.*]; John Alick Thomas; Herbert Tooley [*A.*]; Robert Magill Young, B.A. (Belfast). As ASSOCIATES (5): Thomas Charles Agutter [*Qualified* 1892] (Ipswich); Samuel Charles Brittingham [*Qualified Colonial Exam.* 1906] (Melbourne); Walter Hooker [*Qualified* 1886]; Kenneth Guscotte Rea [*Qualified Colonial Exam.* 1906] (Montreal, Canada); Stanley John Wearing [*Probationer* 1903, *Student* 1905, *Qualified* 1906] (Leicester).

The proceedings then closed, and the Meeting terminated at 9.30 p.m.



Fontainebleau. Drawn by Gerald C. Horsley.

STYLE IN ARCHITECTURAL DRAUGHTSMANSHIP.

By Stanley D. Adshead [*F.*].

Read before the Liverpool Society of Architects, January 1907.

I.

UNTIL about the time of the 1851 Exhibition, architecture in this country developed with a unity of purpose which has never since been attained; individuality expressed itself within circumscribed lines, and architects designed with a confidence never since felt. Socialistic tendencies, scientific methods, and foreign travel have changed all this, with the result that modern architecture, although occasionally giving us works which are of scholarly interest or striking in their individualism, fails utterly, when regarded as a whole, for want of cohesion and agreement as to general direction.

I think that this view of modern architecture is now pretty generally recognised; but I doubt if many have observed that the same condition obtains with regard to the sister arts of painting and sculpture, and perhaps but few have perceived that similar conditions affect the less important art of architectural draughtsmanship.

It is quite evident that at no period did architecture depend so much for its proper realisation and execution as at the present upon draughtsmanship. Years ago every architect was a master craftsman; to-day he is a scholar. The time was when draughtsmanship held a position of secondary importance; but nowadays, when an exact conception, complete to the minutest detail, has not only to be evolved, but accurately set down in concrete form (before in many cases the architect has even seen the site), draughtsmanship has become an accomplishment of very great importance, and requires to be of a very high order.

This change ought not to have had a bad effect on architecture, but I am afraid that such is the case. Not only is architecture controlled too much by draughtsmanship, in the sense that its effect is insufficiently considered as seen in brick and stone, so to speak, but it undoubtedly suffers through eccentricities in manner and style which unconsciously translate themselves into eccentric architecture.

Still, architecture must necessarily remain dependent on draughtsmanship, and therefore I am inclined to think that one of the surest means of arriving at a more uniform and truly national style of architecture is to be found in the adoption in our recognised educational institutions of a uniform and traditional manner of drawing, such as obtains in France and America.

II.

It appears to me that we have become hopelessly confused in our appropriation of the different methods, manners, and styles which we assume in the representation of our architecture, and it is my particular intention in this Paper to discuss and consider their correct application.

Taking a broad view of architectural draughtsmanship, we notice that it separates itself into two distinct methods. The first, which is scientific, I will designate the *explicit* method; the second, which is æsthetic, the *suggestive* method. Both are at times intimately connected, the latter being in reality a concentration or abstraction of the former.

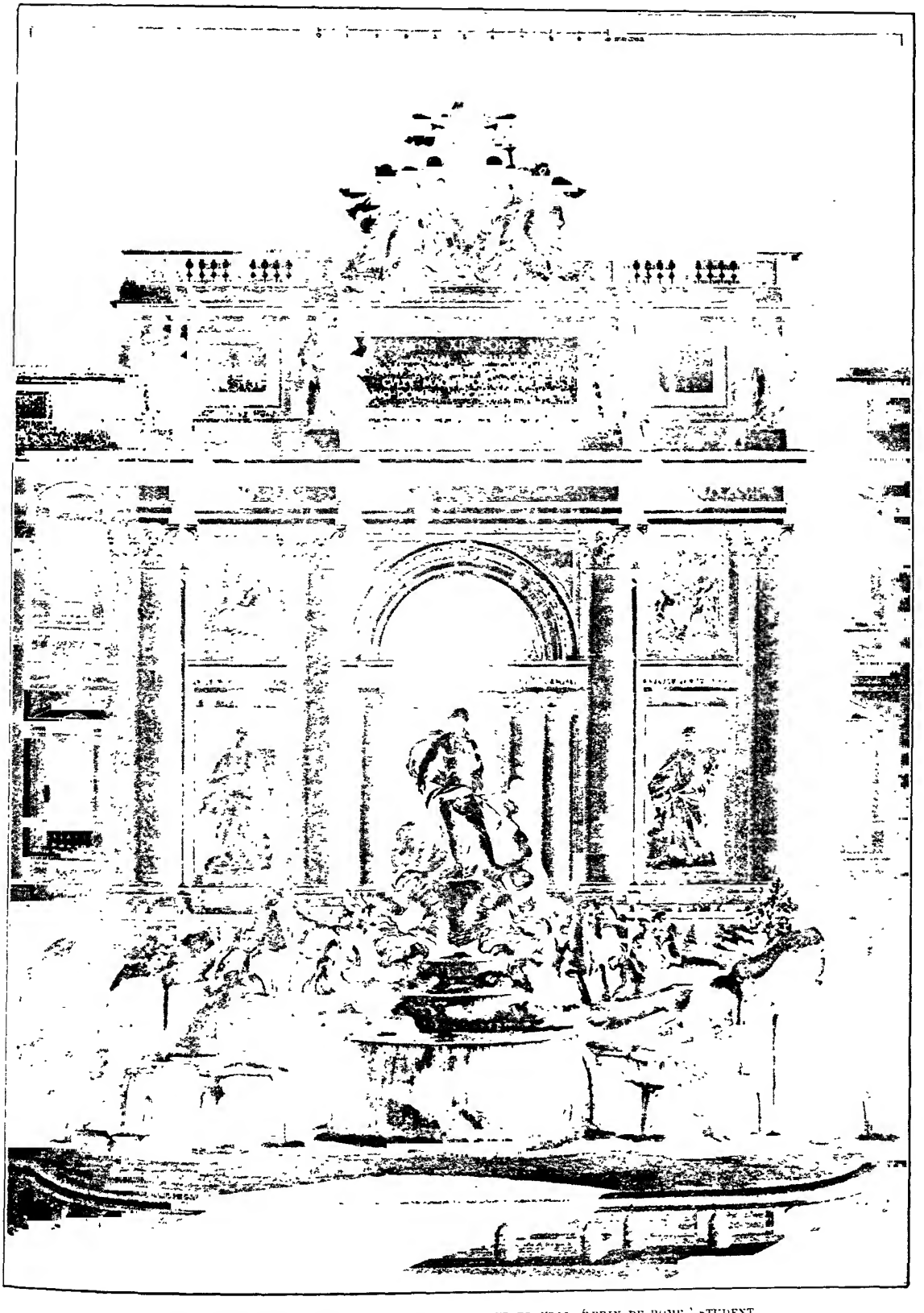
The explicit method requires for its exposition a clear conception of certain simple attributes of the subject, and mechanical skill in transferring these to paper. Such draughtsmanship can be taught with complete confidence, as it conforms to easily perceivable rules. As examples of the finest drawings that have been made according to this method, I may refer to the measured drawings of the Prix de Rome students. Doubtless many of you have seen reproductions of these in the work by D'Espouy and elsewhere. The skill displayed in the execution of these drawings is amazing.

The suggestive method of drawing demands in its exposition great excellence in taste and an appreciation of the abstract. Its effect appeals direct to the imagination, and, being too subtle for analysis, rules cannot be framed sufficiently complex to compass it. Accomplishment in this method is the hall-mark of the artistic architect, and ability to appreciate its subtleties is the birthright of the artist.

The explicit method is essentially artificial, as opposed to the suggestive, which is natural. I consider that every architectural student should make himself a master of explicit draughtsmanship. This is most essential, and he who is ambitious to become a really accomplished draughtsman should, along with this study, pursue the more serious study of the suggestive method. I am inclined to think that the study of the former, unless accompanied by the separate study of the latter, is apt to cramp the student. Both should be carried on at the same time, but should be regarded from entirely different standpoints. Studies in suggestive draughtsmanship should not be confined simply to architecture, but should include in their curriculum the drawing of the figure and landscape composition.

I have said that it is impossible to teach this method of drawing with confidence. I mean that it will not conform to recognised rules and regulations, and a dogmatic criticism is apt to be misapplied. At the same time much can be done by example. It is a case where example is distinctly preferable to precept. Architectural schools should possess, as examples for the students, originals or copies of the best works that have been executed according to the suggestive method.

Whilst under this head I wish to express my entire disapproval of the pure outline



TREVI FOUNTAIN, ROME: FROM THE DRAWING BY PAUL BLONDEL, "PRIX DE ROME" STUDENT.

drawing as a means of expression. Let us have drawings executed according to the explicit method by all means, but let these be rendered. Outline drawings should only be used as working drawings, as documents in a contract, and when cheap reproduction is absolutely essential.

III.

I now come to manner and style. Correctly speaking, explicit draughtsmanship is too mechanical to be affected by either manner or style; in practice, however, it is impossible to produce a drawing which is absolutely explicit according to the strict definition of the term. In this method, therefore, we are bound to admit something of style; but I wish you to understand that in general I use the terms "manner" and "style" in reference to suggestive draughtsmanship only, and in particular to drawings executed according to the perspective system.

All draughtsmanship is primarily controlled in its execution by manner. Manner is closely allied to style, being, in fact, the treatment wherein expression is given to style. Manner may be broad or confined in its treatment, and free or cramped in its technique. Breadth affords opportunity for the expression of style.

As an instance of confined manner, take the kind of draughtsmanship which will not admit of a ruled line, or of that which is all ruled and will not admit of the hand-directed line. In this connection let us remember that the hand-directed line is unquestionably very sympathetic; it is also very expressive, but in the delineation of classic architecture I cannot advise its entire use. Here precision and vigour are qualities of the first importance, and for their due expression the use of the ruled line is imperative.

Then there is the case where it is considered to be a false mode of expression to make use of anything so conventional as a line at all; shade is finished against shade, and colour against colour. Here there is a straining after photographic correctness, and an evident intention to be realistic, which is not good. All draughtsmanship is conventional, and must ever remain so; the sooner we admit this fact the better. By ignoring the value of line one of the most useful devices in all draughtsmanship is disregarded and effect is lost. A very careful study of the works of Canaletto has convinced me that in drawing architecture we should make a free use of line.

Then there is the case in pen-work where cross-hatching is entirely forbidden, in wash-work where body colour is not allowed, &c.

In conclusion I would point out that it is much easier to obtain perfection in a confined manner than where the manner is broad; but perfection obtained in a broad manner is undoubtedly the greater accomplishment.

IV.

In draughtsmanship style is that indescribable attribute which approximates to the soul. It is the personal note; it supplies the human interest. It is closely allied to temperament, and evokes sympathy or antipathy. Without style all is cold and insipid; the drawing which evinces but little evidence of style may interest but can never delight.

Style in draughtsmanship gives us a new view of the subject, regenerated, reanimated, reflecting the character and disposition of the exponent. Hence out of variety in human disposition we come to have difference in style.

We all possess style of our own, but in our draughtsmanship we express that initial style which is our own, not so much in the manner of our attitude towards the subject (we are none of us sufficiently original for this) as in the way in which we make use of and adopt

set styles in draughtsmanship which have been already formulated by our predecessors. We form our style on the styles of our predecessors; we see things as others more original than ourselves have shown us how to see them. It is the use we make of the styles of our predecessors which determines our own style: its originality simply depends upon the excellence of the taste displayed in selecting and combining, and upon the scope of the selection. The style which is our own tends to be intellectual or capricious, and if we are ambitious to do the best work it is our business to see that it is in the first place intellectual.

When intellectual, the subject is approached with an observation trained to note all its characteristics with a judgment so well balanced as to be able to discriminate such as are most fitting its noblest conception, and with a knowledge of the already formulated styles in draughtsmanship so complete as to be able to choose out and adopt such as are best suited to express these characteristics.

When capricious the subject is approached in an attitude predisposed to observe only certain characteristics, and a style in draughtsmanship is adopted suited to the eccentric disposition of the exponent rather than to the noblest characteristics of the subject.

The first is reasonable as opposed to the second, which is instinctive.

Essential to the expression of style is consistency in manner. It requires great experience in draughtsmanship fully to express style, but with persistent practice it will ultimately assert itself, and will follow as the direct result of a capability to make use of the devices of manner and technique. To some this power will come early, to others not until late in their career. I would not advise a student to be in too great a hurry to formulate style, though its due expression is essential to all good draughtsmanship. If formulated too early it will be deficient in excellences, which with a wider range of vision and greater choice in selection would most assuredly have crept in.

I now propose to direct your consideration to the names of those outstanding geniuses, whom we may regard as being originators of style, and whose style is distinctly intellectual.

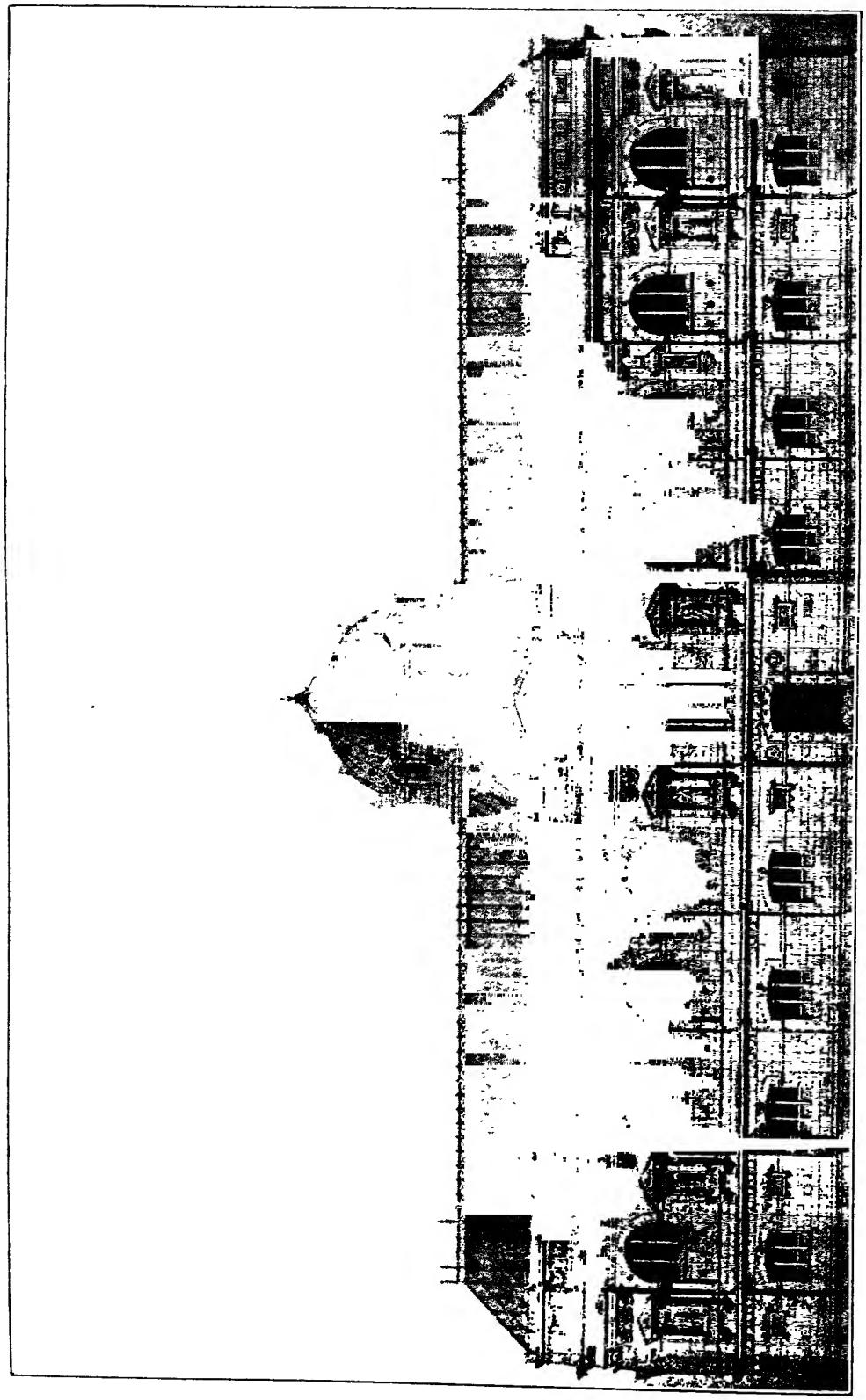
First in order of importance I place Piranesi. His work always evinced a lofty intelligence, and in contemplating the serene grandeur with which it is imbued one's attention is never distracted by a petty intrusion. The interest he aroused in his rich accumulation of detail, in his awe-inspiring effects and picturesque compositions, was so well managed as always to enhance rather than detract from the initial delight in the nobility of his general conception.

Canaletto, I think, comes next. He was, in the first place, a subject painter, but his love of architecture and his ability to bring his architecture in touch with the ordinary incidents of every-day life are deserving of our closest study. His manner was his own, and no draughtsman has surpassed him in the magic use of line.

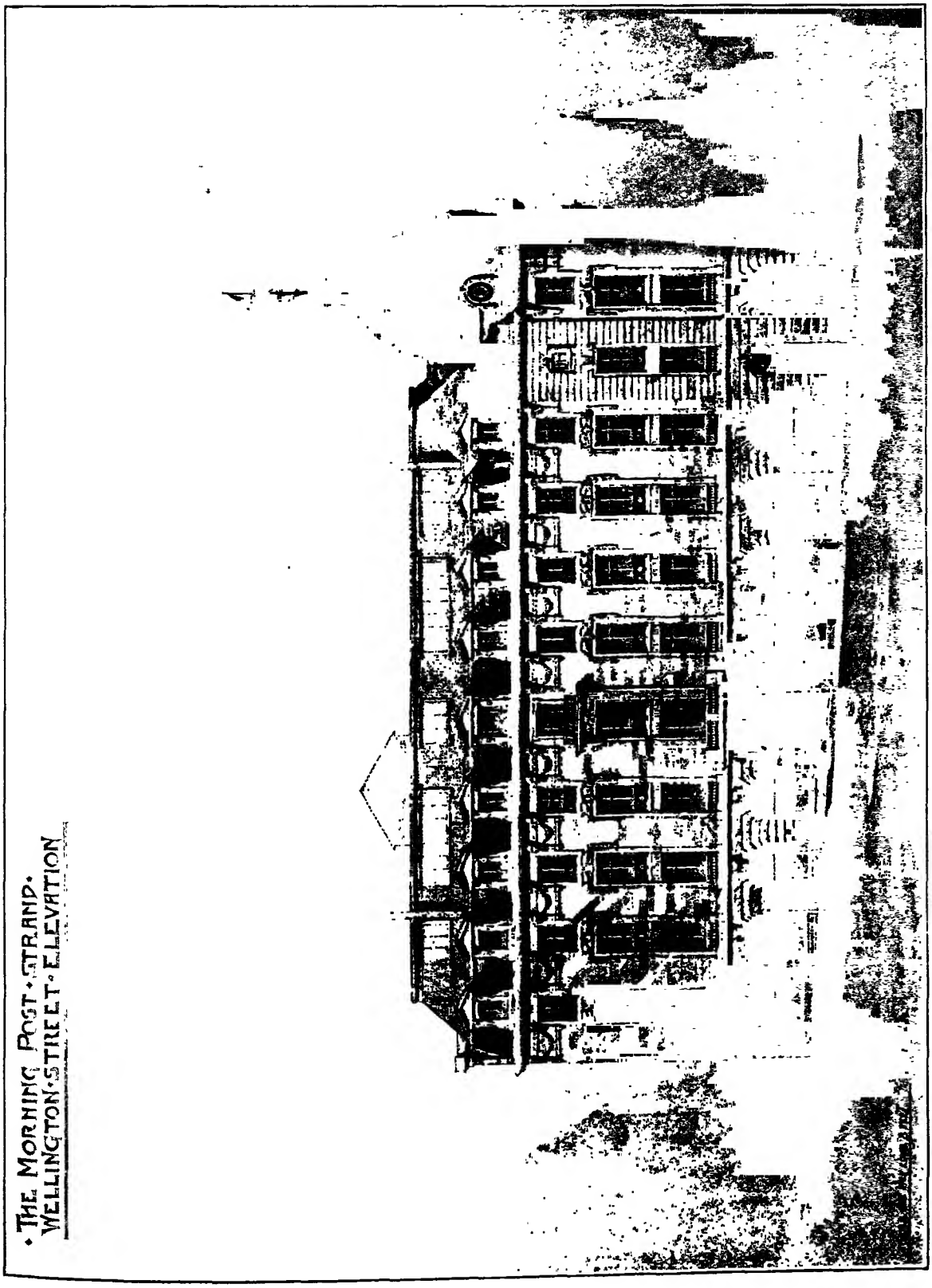
Turner, though best known as a landscape painter, was early associated with architecture; and so powerful has been his influence on draughtsmanship of every description that we must not omit to mention his name in this connection. His freedom of manner was extraordinary, and his abstract architecture, often nebulous and visionary, is set in a splendour of surroundings so magnificent, and is bathed in a light so ethereal, as to be absolutely captivating in its poetic conception.

Amongst many others who were, however, inclined to be more capricious in their style I choose out the following:—

Francesco Gaudi, for picturesque composition, and, coming nearer home, Robert Adam and Clerisseau, who worked together in Rome after Piranesi, and formulated a style which had a very great influence on English draughtsmanship of the nineteenth century. Gandy, Smirke,



DESIGN FOR A MUSEUM OF NATURAL HISTORY: FROM A DRAWING BY R. PHENÉ SPIERS.



OFFICES OF THE "MORNING POST"; FROM A DRAWING BY W. DAVIS IN THE FRENCH STYLE

and Cockerell owe much to these men; their manner was not great, but their style was always refined.

Augustus Pugin, Samuel Prout, and David Roberts were architectural painters rather than draughtsmen, but their work had a great influence on the architectural draughtsmen of their time. From amongst such I pick out for your especial consideration Joseph Nash and Louis Haghe. Their style was very similar. Louis Haghe was a master of picturesque composition; but as a colourist he was poor, or I should have placed him first. In Joseph Nash, however, we have one of the most brilliant all-round architectural draughtsmen that this country has ever produced; for dexterity of manner and for brilliancy and sparkle his work has never been surpassed.

Among pen draughtsmen I place Vierge easily first: his manner is unequalled for subtle suggestion.

Among modern draughtsmen whose style is, I consider, very pronounced and deserving your first consideration, I may mention William Flockhart for directness and for the absolute freedom and breadth of his technique; E. A. Rickards for his appreciation of subtle forms and for the wonderful freedom of his line; Ernest George for his picturesque compositions; Sir Charles Nicholson for tone and colour; and F. W. Simon for his appreciation of the refinements of classic architecture.

I have now given you a list of those who I consider deserve to rank as the greatest exponents of style in architectural draughtsmanship; and I have commented upon their work that you may understand what I mean by that initial style which is entirely personal. There are also the set styles which we adopt, and which correspond to particular types of temperament. Let me warn you to be cautious in the use of such styles, for it is your choice in their adoption which makes that style, which is your own, either intelligent or capricious; unless adopted with intelligence, such styles may not only be quite out of place, but will possibly prove absolutely ridiculous. From among the more pronounced of such set styles in draughtsmanship I pick out the following as examples:—

The Terrible style, the Picturesque style, the Quaint style.

In the Terrible style the draughtsman is ever seeking to inspire awe. Figures, balustrades, and doorways are reduced in scale, whilst towers and domes rend the air and pierce the clouds. Piranesi adopted this style in his works, known as the Prison Series, in excellent taste.

In the Picturesque style there is ever an effort to produce what I term stage effects. The oriel window, the ivy-clad turret, the shady portal, the broken column, and the chimney corner are all examples of features of the greatest interest. I quote Francesco Gaudi and Samuel Prout as masters of this style.

In the Quaint style we get a simple interest in all sorts of oddities, such as gargoyles, rain-water pipes, ridge tiles, hinges, handles, finials, and jointings. All attention is paid to their due expression. German draughtsmanship is particularly inclined to favour this style.

In explicit draughtsmanship, historical events and the national temperament are responsible for the expression of some style. In this kind of draughtsmanship there are, however, only two styles which are sufficiently pronounced to deserve serious consideration. The characteristic feature of the first is refinement, and it is best known as the French style, or had it not been for recent aberrations I would prefer to have called it the Academic style. The characteristic feature of the second is strength, and it will best be recognised as the thick-line or competition style.

In the manner of the French or Academic style the lines are drawn with light ink and practically as thin as possible, and thus the greatest amount of information is guaranteed and

refinement ensured; practically the edges of all facets are expressed by thin light lines, which are clear and true, and do not cross or run into one another. Nothing is suggested, everything is shown exactly. When the drawing is complete, it is more or less elaborately rendered for effect: this is done with similar exactitude, the edges of all the shadows being scientifically found, the depth of the reflections and varying strengths of the shadows in their receding planes being carefully considered. For a technical description of how such drawings are made I cannot do better than refer you to a work on drawing by Mr. Phené Spiers, the late accomplished drawing master at the Royal Academy.

Mr. Spiers's influence upon architectural draughtsmanship during the latter part of last century was inestimable, and had it not been for the reactionary influence of the Gothic revivalists at the Academy he would undoubtedly have preserved to us a truly national style of explicit draughtsmanship which would have gone far to prevent many unworthy digressions in modern architecture. Now it is this style of draughtsmanship for which I strongly advocate a revival in this country. It was in use to the exclusion of all others at the Royal Academy until some thirty or forty years ago, and it is at present in use in the École des Beaux-Arts in France, and universally in America. It is refining in its influence, because its expression necessitates a capability to search into detail, and no style in explicit draughtsmanship is so rich and telling in its effect as is this style when highly rendered, the manner of producing effect by shadow and reflection being capable of infinite resource. I go so far as to say that the representation of good architecture can only be done justice to in this style, because a characteristic attribute of good architecture is refined detail.

It may be contended that for ordinary and competition purposes this style of draughtsmanship demands too great an expenditure of energy and time. In reply to this I would say that it is impossible to make explicit drawings with rapidity in any style; when explicit draughtsmanship is hurried, we may be pretty sure either that the style is poor or that the architecture is such as is not worth drawing under any circumstances.

Let us now consider this very prevalent style of draughtsmanship which I have designated the thick-line or competition style. I am indebted to Mr. Spiers for the information that the thick line was first recommended to the students at the Royal Academy in the year 1866 by the late William Burges. I understand that he recommended the thick line on the ground that its use obviated the necessity of showing very much detail.

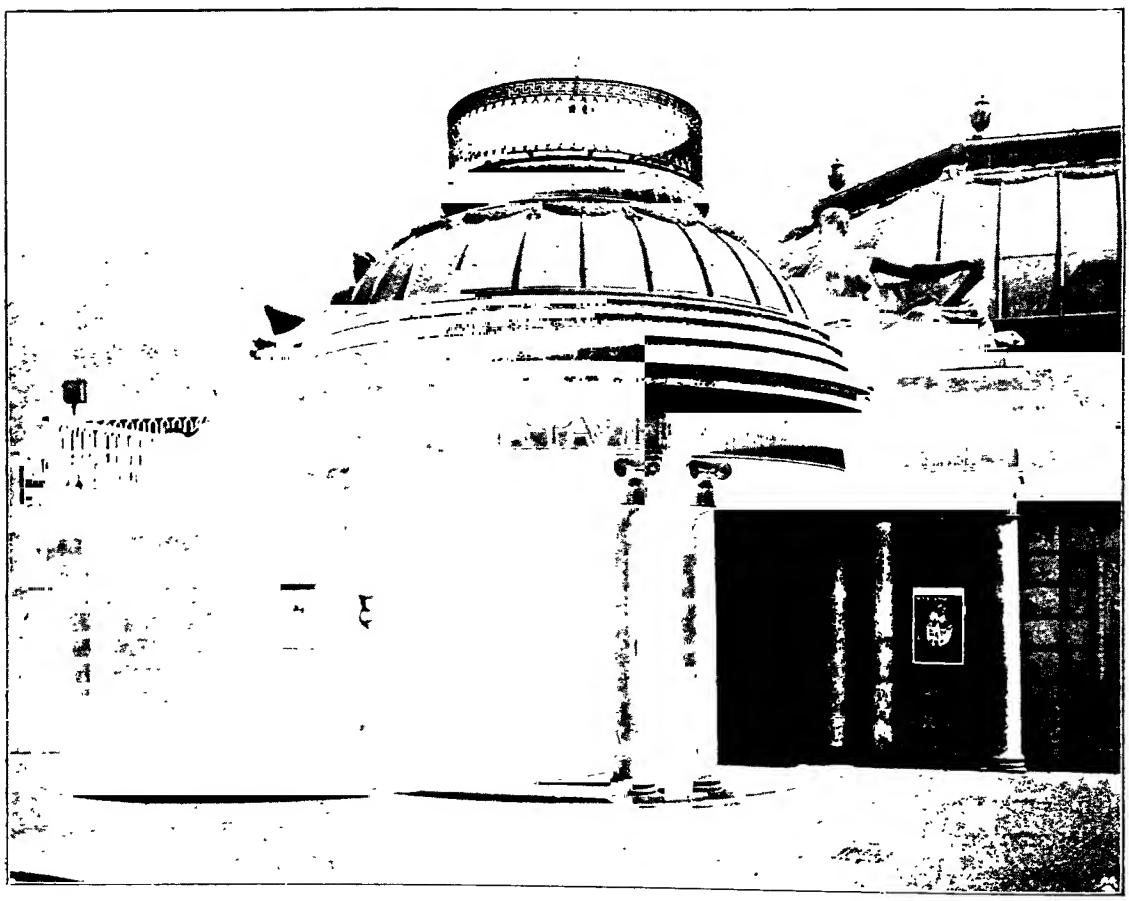
This may be a specimen of Gothic revivalist doctrine, and this quite possibly may have been the origin of the use of the thick line in modern practice; but an argument of this kind would never have given thick-line drawing much impetus had there not been other and more potent causes at work; my own opinion is that thick-line drawing in this country owes its development almost entirely to the stress of competitions, which have stirred draughtsmen to undertake herculean feats, and who possibly not possessing sufficient confidence in themselves to rely for success upon a display of grace and refinement, or possibly not having sufficient confidence in their assessor to discriminate between refinement and impotence, decided to captivate him with a simple display of brute force: an appeal which I regret to have to admit has undoubtedly helped to ensure success in many cases. One often hears in reference to competition drawings, "Ink it in with a thick line, or the assessor will never see it." Do assessors give their awards on questions of ink? Let us hope that this is not so, and let us hope, as I think we may, that assessors are not to be captivated merely with a display of good black ink.

The fact of the matter is, the adoption of this style is simply useful as a cloak to the would-be designer who lacks a knowledge of detail and a sense of refinement. In this style drawings cannot be rendered with any sort of success. I have seen cases where shade has been

added, but the net result is a nasty soapy sort of effect which is altogether outside the pale of artistic expression.

There are other styles in explicit draughtsmanship, but they are all more or less deformed; in particular I may mention the flashy style. The draughtsman who works in this style rules in patches of jointing which give a flashy sort of effect; if the joints are to be ruled in at all they should be ruled in throughout, and if the design is well balanced the effect will of necessity be well balanced also.

There is also the style which relies for its effect upon a tricky use of the notched T square, that which relies for its effect upon the use of different densities of ink, and others which

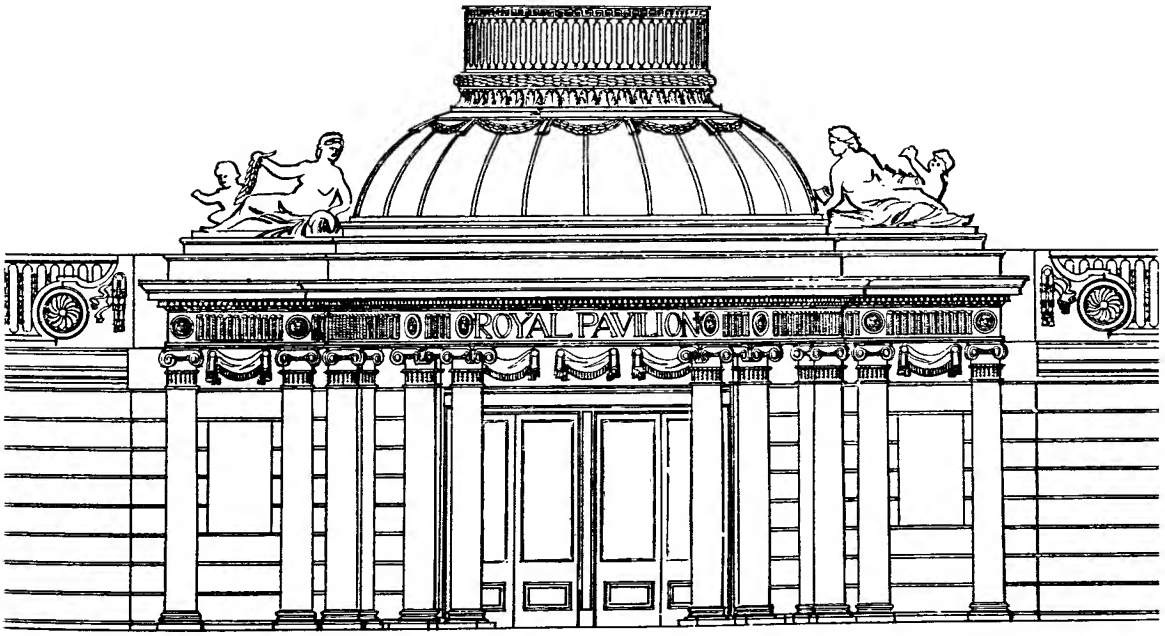


ENTRANCE TO THE ROYAL VICTORIA PAVILION, RAMSGATE: FROM A PHOTOGRAPH.

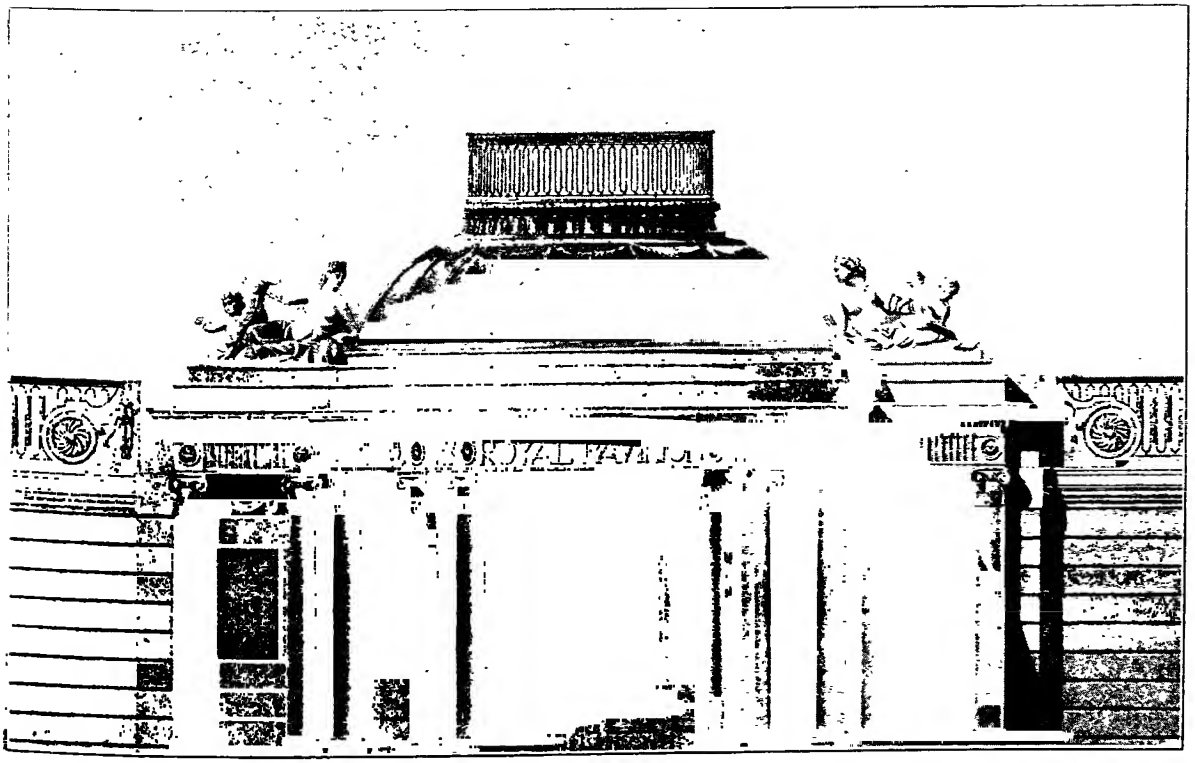
exhibit all manner of freaks resulting from the use of broken lines, back lines, crossed lines, dots, spots, and splashes. All such, however, even when displayed to the greatest advantage, are merely pretty. Perhaps I err in describing them as styles in explicit draughtsmanship; essentially they are very poor examples of styles in the suggestive method.

V.

It only remains for me now to make a few remarks on the influence of architectural draughtsmanship on architecture.



ENTRANCE TO THE RAMSGATE PAVILION: FROM A DRAWING BY THE AUTHOR IN A "THICK LINE" OR "COMPETITION" STYLE.



THE SAME, FROM A DRAWING BY THE AUTHOR IN THE "FRENCH" OR "ACADEMIC" STYLE.

I have advocated the use of the French or Academic style in explicit draughtsmanship, and I have said that the most prevalent style is the thick-line style. I will now show you that this thick-line or competition style, and others more or less deformed, are entirely responsible for a poverty in detail, a loss in refinement, and a foolish groping after the fantastic in modern architecture. Compare any typical modern municipal building or Carnegie library with such examples of old work as we get in the Banqueting Hall at Whitehall, the Bank of England, or your own St. George's Hall; measure the depth of the fillets, count the variety of the enrichments and compare the delicacy of their carvings, and you will be convinced.

I ascribe this degeneracy largely to our coarse manner of drawing. But, apart from coarseness and poverty in detail, modern architecture has in its varying styles assumed all sorts of fantastic shapes and grotesque absurdities, such as blocks, where in old work we would have had refined and well-drawn consoles; interpenetrations of mouldings, panels, and blocks, and suchlike cut and jumpy freaks of cleverness which outvie a Chinese puzzle in intricacy—all perfectly meaningless and entirely resulting from the use of an eccentric method in explicit draughtsmanship which admits of an unrestrained use of crossed and broken lines. And last, but not least, I notice the entire absence of the fluted column. The flutes of a column are said to be very difficult to draw.

In conclusion I repeat that a good national style of architecture will most assuredly result from the general adoption of a refined manner and noble style in draughtsmanship.

DISCUSSION ON THE REPORT OF THE JOINT REINFORCED CONCRETE COMMITTEE.*

Mr. Thomas E. Collcutt, *President*, in the Chair.

THE Provisional Report of the Joint Committee on Reinforced Concrete, advance copies of which were sent out to members with the Journal of 27th April, was duly presented by the Chairman of the Committee, Sir Henry Tanner, I.S.O. [*F.*], at the General Meeting last Monday. Sir Henry, in the course of some prefatory remarks, referred to the formation and constitution of the Committee, and briefly sketched their work and aims. Alluding to the lack of any authoritative pronouncement in this country on the rules to be observed in reinforced-concrete construction, he said that this had in many ways prevented the employment of reinforced concrete, such employment being practically prohibited for buildings under the ordinary building regulations. It was only such bodies as railway and dock companies, who were not bound by these regulations, who had been able to avail themselves of so economical and space-saving a method of construction. Other countries had been more lenient, and in consequence were far in advance of this, both as to general knowledge of the material and skill in its use. The Committee had formed three sub-committees for the consideration of (1) Fire Resistance, (2) Materials, (3) Formulæ. These sub-committees had considered an enormous mass of literature, including the regulations in force in other countries. Messrs. Cubitt had placed at the disposal of the Committee seventeen beams, plain and reinforced, for testing to destruction. These were the only tests made. Available records of all kinds of accurately tabulated tests had largely removed the material from the unknown; and the Committee felt that what was required was rather a reasoned theory based on recorded experiments than further experiments of their own. The aim of the Committee had been to produce a good working guide, the laying down of necessary conditions, and settling safe rules for a proper disposition of the parts. The difficulty had been to determine the merits of rival systems; but the Report and Rules would enable the architect to form an accurate judgment for himself if he had the requisite knowledge, or with the aid of a consulting engineer if he preferred. The Rules proposed were by no means revolutionary; the same principles were being adopted abroad, but with some variation of detail.

Sir Henry concluded by moving the adoption of the Report, and that copies, with explanatory letters, be sent to the Local Government Board and the London County Council.

Mr. John Slater, B.A.Lond. [*F.*], said he had much pleasure in seconding the adoption of the Report. They, as architects, were bound to be interested in any new invention which dealt with methods of construction, and it was most desirable that any such inventions should be submitted to the deliberation and discussion of an independent and unbiased body of men. It was desirable not only in their own interests, but in the interests of their clients, and particularly in the interests of the inventors themselves. Architects must naturally be somewhat shy of recommending to their clients anything of an empirical nature, because, of course, they must not risk failure. Their clients under ordinary circumstances were averse from making experiments of their own on the ground of expense, and therefore were inclined to fight shy of new inventions. But by this disinclination to run any risks they might lose a great deal if the new invention was of such a kind as would suit their requirements. And especially was it desirable in the interests of the inventors themselves. Inventors were inclined to be both a jealous and a sanguine class of persons. Many no doubt knew the old story of the stage carpenter who invented a method of producing thunder on the stage which was extremely naturalistic. He heard one day that in a rival establishment they were also creating very realistic thunderstorms; so he went to the rival theatre, and when the thunder occurred he could not contain himself, but jumped up from his seat and called out in a loud voice, "I say, that is my thunder; that is my thunder!" He was inclined to think that a great many inventors, when someone else discovered or invented something which had a close similarity to their own bantling, were inclined to cry out, "My thunder, my thunder!" Inventors were also, quite naturally and rightly, a sanguine class of people. Theirs had been the brain from which had emanated the new idea; theirs had been the trouble of investigating and experimenting and bringing down from the slippery heights of theory to the solid domain of hard fact and practicability and usefulness the new thing they had discovered. He made no complaint of that; it was human nature. But there was a danger that the people who had investigated a new departure, a new invention, would not be able to control the well-

* Sir Henry Tanner's remarks will be printed in full in the next number of the Journal, together with the Report as finally revised, and Appendices by Professor Unwin and Mr. William Dunn. A further Appendix by Mr. Dunn, giving Examples of the Method of Calculation, has been added to the Report, and will be included in the next issue.

nigh uncontrollable tendency to magnify the good points of the new invention, and to minimise those slight symptoms which might tend to show a defect, because the inventors were so certain they were right. He felt confident, therefore, that the publication of the Report of the Committee would do a great deal to encourage and to advance this novel method of building in reinforced concrete. A great deal of the Report was of a very abstruse nature; the calculations and that kind of thing were matters that most of them were unable to go into for themselves; but they could, at any rate, endorse the recommendation of the Committee that the system of by-laws, whether of the London County Council or of other local bodies, ought to be so modified and altered as to allow of the use of this new material as extensively as possible. Most people who had seen this new invention would agree with what the Committee said as to the necessity for extremely careful supervision in the manipulation of this new material. In the last number of the JOURNAL there was a quotation from an article by Colonel Winn, in which he said that a careless man with a shovel may defeat their most elaborate calculations; and it was absolutely necessary that with this new method of construction constant supervision should be provided. Doubtless there were present some who desired to give expression to their views and possibly to ask some questions on the subject, so that he would not detain them any longer; but before he sat down he should like to do what Sir Henry Tanner in his capacity as Chairman of the Committee was precluded from doing, viz. to propose that a hearty vote of thanks be given to the Committee for the investigations they had made and the trouble they had taken in preparing their Report.

Mr. E. FIANDER ETCHELLS, Fellow of the Physical Society, said he should like to support the vote of thanks. He knew that the amount of work which was visible on that Report was not one-tenth, or one-twentieth, or one-fiftieth of what the Committee had done; and, more than that, he would congratulate the Royal Institute of British Architects on being the pioneers among the learned societies and institutions of the country in laying down rules for the guidance of their members as to construction in reinforced concrete. The Report would be exceedingly useful, and one of its chief advantages was that it would admit all patents on an equal footing, and let each patent be tried—except patent ways of calculation! The recommendations of the Committee would prevent that. He was delighted to see that the Committee had made such a consistent effort to get throughout a scientific method of calculation, and when in the present state of the subject that had not been possible, they had gone as near to the ideal as they could. He also congratulated them on the care with which the general provisions had been laid out. For instance, on page 1, half way down the page, it said: "If the metal skeleton is properly coated with cement." That was exceedingly necessary; for the Committee of the Structural Association of San Francisco had recommended that the use of cinder concrete should be forbidden. It was found on examination of cinder-concrete floors in a number of buildings that the corrosion was so extensive as to seriously endanger the safety; and while the Report before them said that the metal skeleton should be properly coated, the question now arose whether in every case such procedure was practicable; for in the practical execution of such work there were thousands of intricate bends and joints and connections. He would therefore ask the Committee to add one more paragraph giving the benefit of their experience and showing how this coating could be everywhere properly and efficiently done. There was, however, a greater objection to coke-breeze concrete than its corrosion. On page 237 of the 3rd edition of Marsh and Dunn's classic it was stated: "For concrete of coke-breeze and furnace ashes the resistance to compression may be taken as one-third of that of broken stone, and it may be even less." Then with regard to page 5, line 7, there was no definition of the accidental load given until the foot of page 6 was reached, and that definition was not absolutely clear. In any case, "imposed load" or "superimposed load" would be less ambiguous than the term chosen; for it scarcely seemed fitting that the load for which the building was designed and specially calculated to carry should be called the accidental load. Whatever "accidental" may have meant in Newton's time, to-day its obvious and predominant meaning is something which happens, especially anything occurring unexpectedly, or without known or assignable cause, or something happening contrary to our desires. "Superimposed" was a more suitable word for modern use, and did not require a special footnote to explain it. On page 6, section 3, provision was made for the common assumption that all floors may not be loaded to their fullest capacity at the same time. It was noted that the suggestions made by the R.I.B.A. for steel-framed buildings gave reductions of 5 per cent. per floor, while the recommendations for reinforced concrete buildings gave reductions of 10 per cent. per floor. In a six-story building this meant a difference of about 14 per cent. There should not be two standards on this one point. The 5 per cent. reductions appeared to be based on the New York code. He would be glad if the Committee would inform them as to who was authority for the 10 per cent. reductions. Furthermore, although the assumption might be true for a big hotel or an office block, it was obvious that in a warehouse the growth of the business, without increase of floor space, might mean that loads would be piled high. Also the fluctuation of prices or the condition of the market might be such that at certain seasons the goods would be held back and the warehouse

crammed. It might be that at a riverside warehouse several ships would discharge their cargo and fill the warehouse with bags of cement, rice, sugar, or paper. For these reasons he submitted that the aforementioned clause should not apply to buildings of the warehouse class. On page 8 the diagram was not in concord with the equations below it. The difference in the slope of the diagonal lines was very misleading till it was perceived that it was the value of t which was given in the diagram and not $\frac{t}{m}$. He suggested that another diagram be added, or that that one be altered so that the diagonal lines would have the same slope in order to show the similar triangles implied by the equations thereunder. On page 9, last equation, a misprint occurred. For d_1^2 should be read d^2. On page 10, three parts of the way down, equation for kd would appear to have a simpler form than that given. On page 12, halfway down, there was a mistake in the equation for Z; Z should $=2nAh$, not $\frac{1}{2}nAh$. On page 12, three parts of the way down, Case I., it was not made sufficiently clear that the rods were equidistant from the neutral axis. The word "symmetrical" by itself was not enough. The rods might be arranged in a circle and still be symmetrical with regard to the neutral axis. On page 13, Case III., equation for Z, there was a mistake in the second numerical coefficient: it should read $\frac{1}{4}$, not $\frac{1}{16}$. This might be ascertained either by direct integration from first principles or by reference to the equation for value of moment of inertia in example 3 on page 19. On page 19, line 5, he suggested that this should be added to so that it would read: "For a circular section with all rods equidistant from the neutral axis." On page 19, end of line 10, there was an error: instead of A_c+14A_t it should be A_c+14a.

Mr. H. D. Searles-Wood [*F.*], Hon. Secretary of the Committee, said that with regard to Mr. Etchells's criticisms on the formulæ perhaps Professor Unwin had better answer them in writing, because he was entirely responsible for them, and had got out the proofs for the Committee. Mr. Wells, who had promised to be present that evening, but had been unfortunately prevented from coming at the last moment, wished to make some communications with regard to the value of sheer in concrete that would be found of value in the Report, and in order to prove his proposition he had got Messrs. Earle, of Hull, to make him some special blocks which he had submitted to Messrs. Kirkaldy for the purpose of working out his views, and he had promised to communicate the result of the experiments to the Institute Journal.

Mr. William Dunn [*F.*], who was called on by the President, said he should like to reply to at least one part of Mr. Etchells's criticism—viz. the part in which he dealt with cinder concrete and the Report of the Structural Committee of San Francisco. If his memory served him right the San Francisco Structural Committee appointed a sub-committee of two to investigate the subject. That sub-committee of two found that where rust existed it was because the concrete was extremely porous: coke-breeze concrete, they knew, was apt to be porous, because it absorbed a great deal of water. The sub-committee did not, he understood, controvert the conclusions of the very exhaustive experiments Professor Norton had made at the Fire Insurance Station in Boston in 1902 and 1903. He had made a very exhaustive series of experiments there, exposing iron embedded in concrete to all kinds of influences which in the course of three weeks were sufficient to eat through ordinary bars of iron; and he had come to the conclusion that cinder concrete was equally effective with ordinary stone or gravel concrete, or very nearly so, in protecting iron against rust. He found that the sulphur in cinder concrete did not deleteriously affect it because its influence was neutralised by the alkaline nature of the cement. He found that the main factor, of course, was what the Committee pointed out, that the iron should be thoroughly coated with cement mortar, and, next, that the concrete itself should be free from voids, which was best obtained by making the concrete fairly wet and thoroughly tamping it. The materials sub-committee had this subject before them, and argued it out very fully; indeed, he thought they pretty well exhausted the subject, and they came to the conclusion to make this recommendation with full knowledge of the facts as known at the present time. Another point Mr. Etchells touched upon was the question of the diagrams. He (the speaker) happened to be on the Mathematical Committee with Professor Unwin, and he was not able to pronounce right away an opinion upon the mathematics which Mr. Etchells had got up, but he thought they had reduced the expression kd to its simplest form. The other question was the question of the diagram which he (the speaker) had drawn under Professor Unwin's direction. It might improve that diagram if the straight line in the upper part of it, the strong line, were drawn in a continuous line; it would show more simply the angles upon which the reasoning was based, and that was a correction which he thought the Committee might perhaps make. To those who were familiar with reinforced-concrete mathematics it was quite plain, but it might not be so to others. Mr. Etchells had asked about the question of reduction for floor loads. Mr. Etchells would see, if he looked, that there was no reduction made except for buildings containing more than three floors, and from such knowledge as he (the speaker) had of loading buildings, even iron warehouses, he did not remember ever to have seen four floors fully loaded; indeed it was almost impossible to get them fully loaded. Although he had not got the most recent New York by-laws with him he thought this 10 per cent. was in conformity with

the recommendation in those by-laws. The Committee at the time their report was made had before them a number of by-laws, those of New York, the French Government Rules, the Austrian Government Rules, the Prussian, the Swiss, the German Engineers' Association Rules, and various others, and the Committee considered all those rules; and he frankly owned that, so far as he was concerned as a member of the Committee, he was not aware that the Institute had made other regulations which were not in consonance with this. He might be wrong, and it was putting reinforced concrete at an advantage of course; but taking the thing in itself he thought it was a perfectly reasonable recommendation to make. That, of course, the Institute could express its opinion upon. The other matters Mr. Etchells had touched upon were matters of mathematics upon which one would hesitate to express an opinion without full consideration; but no doubt if Mr. Etchells would put them before the Committee his views would be fully considered.

Major E. M. Paul, R.E., who was one of the representatives of the War Office on the Committee, said he had hoped that Colonel Mayne, who was a much more able exponent than himself, would have been present to represent the War Department. On their behalf he would like to be allowed to endorse what Mr. Etchells had said in congratulating the Royal Institute of British Architects on bringing this matter so prominently forward, and on being the first in the field to do so. The War Department would undoubtedly utilise reinforced concrete in future, and there appeared to be a great field for military engineers in applying it to fortification work. How far it could be applied to fortifications they were not at present able to say. Experiments would doubtless be made, and, in conjunction with the Royal Artillery, who alone could give the requisite information as to the effect of projectiles against reinforced structures, much useful information would be got together. He thought he was right in saying that in Jamaica a great deal of reinforced concrete was likely to be introduced in rebuilding Kingston after the ravages of the earthquake; and he felt assured that all engineers, military and civil, who would be engaged in rebuilding Kingston would be grateful to the Royal Institute of British Architects for having presented this Report, which he thought was a very clear one, bringing the matter scientifically yet simply before them. Anyone with this Report in his hands would be able to strike out confidently in the design of reinforced structures without having recourse to any particular patent system. That indicated a very great advance, and one which would be of incalculable benefit to every engineer and architect in the United Kingdom and in the Colonies.

Mr. Matt. Garbutt [*F.*] said there was a subject which had not been adverted to by any of the previous speakers. Architects in this country had to deal with buildings erected on building leases, and those buildings were expected by their clients to last for the term of the lease, say eighty or ninety years. It would not of course be reasonable to ask that they should have at this moment the result of ninety years' experience of this particular material; but from what one had seen of the rusting of metal, iron or steel, embedded in concrete, he felt convinced that occasionally such rusting would take place, and he presumed that all those who were dealing with this material would be inclined to take into account the possibility of its occurrence; and he thought it was the practice of those who contemplated using this material to consider that this rusting might occasionally happen. They knew that when a very small film of rust formed upon a small part of an iron rod it would certainly burst the concrete in which it was embedded, even if the concrete had given a thicker coating to the metal than the inch or two inches referred to in the Report. On page 7 of the Report a figure was given for the adhesion of concrete to metal of 100 lbs. per square inch. If such a thing as he suggested were to take place on any one bar, that figure of 100 would become 0 wherever that small film of rust was formed. He was not at all convinced that they would get concrete anything like waterproof in the general sense. So far as his own very limited experience went of iron or steel embedded in an inch or two of Portland cement and sand, it showed that moisture did get to the metal, and that the metal did rust. To what extent that went he had not sufficient data to say; but he had seen the metal very much rusted and the cement split up to a very appreciable extent. He was of opinion that if the Report were issued on behalf of the Institute, it should be pointed out that the adhesion of the concrete to the metal was not a thing to be relied upon. Everybody knew that the present practice of concrete steel constructors was to try to invent a specially formed bar which would have some sort of shoulder upon it to give a mechanical grip between the concrete and the metal, and that they did not rely upon adhesion. He thought it rather a pity that the Institute should put this figure forward as the basis for calculation without some careful comment.

Mr. Charles F. Marsh, M.Inst.C.E., said that with respect to what the last speaker had said about the rusting of metal in concrete they had had a great many facts, found out by several people in the past, as to the rusting of metal in the concrete, and he was of the opinion that it had certainly been proved that the metal did not rust when protected by concrete. Especially was this so when the reinforcement was washed over with grout. In any case in which large sections or large bars were used, whether the concrete was cinder concrete or

not, it was certainly advisable to coat the reinforcement with grout. One speaker had asked how this should be done. It was a very simple matter. The ordinary grout was put on with a whitewash brush, and when it was dry the bars were embedded in the ordinary way. The last speaker said that water would penetrate the concrete, and that, therefore, the metal would rust. That did not at all follow. If the water did penetrate the concrete to a slight extent it would not cause the metal to rust, because the metal was already protected.

Mr. EDWIN T. HALL [*F.*]: If it is already protected.

Mr. MARSH: It will be protected in reinforced concrete. Then as to the effect of adhesion, he (Mr. Marsh) understood Mr. Garbutt to say that the tendency of the present age was to produce a deformed bar which would prevent any sliding through of the concrete. That certainly was more or less the tendency in America, but he believed it was a great deal due to the fact that everybody wanted to make a fresh patent; hence the many deformed bars. It had been clearly shown by the experiments carried out by many authorities that a plain round bar would resist the sliding through the concrete under the ordinary stress put upon it, provided, of course, that it was bent out, or split out, at the ends—which was always the case in good construction. One speaker had referred to the care which was necessary in construction in reinforced concrete; of course there was not the slightest doubt that very great care was needed in construction in reinforced concrete; but he would point out that that care was every bit as much requisite in construction in steel. If they put in loose rivets in steel work the structure was in a very dangerous state. Only ordinary care was required in reinforced-concrete construction. The special thing that was necessary was good supervision. As they all knew, the ordinary workman was apt to shirk his work and do it in a very slipshod manner; but with careful supervision and a little choice of workmen it was easy to construct reinforced concrete which would perfectly resist, if properly designed, any stresses which might come upon it in the ordinary way. Mr. Garbutt, he believed, said that the tension in steel on page 7 would be reduced to nothing if water penetrated the concrete.

Mr. GARBUTT: The adhesion of concrete to metal.

Mr. MARSH: The metal will not be affected in properly constructed reinforced concrete. So far as the adhesion was concerned, a slight rusting of the bars, providing that any loose rust was brushed off, was rather better for adhesion than the unrusted plain bars.

Mr. GARBUTT said that while listening to Mr. Marsh a point had occurred to him which he had meant to mention before. This adhesion of concrete to metal seemed to be somewhat on the same footing with another adhesion which existed in structures, which in this country was not taken into account in considering their strength—viz. that due to the friction between surfaces of riveted members in tension, where they had a considerable surface adhesion, due to the shrinking of the rivets longitudinally, pulling the faces of the plates together. That adhesion was very considerable, and he believed in some countries engineers took it into account. It was not the custom with English engineers to do so. That was a somewhat parallel case; and a somewhat similar argument held against taking into account this adhesion of concrete to metal.

Mr. MARSH, replying: Mr. Garbutt had said that the adhesion was always neglected by English engineers in designing riveted structures. As Major Paul had just remarked to him *sotto voce*, of course the fact that the water and the moisture could get between the two surfaces of iron would tend to do away with their adhesion, which would consequently be rendered an indeterminate quantity; therefore it was very natural that they should not rely upon the adhesion of steel riveted together.

Mr. GARBUTT: Excuse me, if there is water in a boiler is the water supposed to get between the plates?

Mr. MARSH: The joints in boiler-work are calked up, and in bridge-work it is not so—at least not usually.

Mr. GARBUTT: But the calking would injure the adhesion rather than otherwise; it would open the plates a little.

Mr. EDWIN T. HALL [*F.*] asked if the Committee had taken into consideration at all the danger that might arise by fire applied to the outside of stanchions, for instance, of reinforced concrete. It had always seemed to him that there was grave danger if fire attacked cement, and the fire-engine turned its hose suddenly on to it, the concrete might split; the metal would then be exposed, and the combination of concrete and iron would give. He remembered some years ago seeing a building of six or seven stories high carried entirely as to its external walls on piers of reinforced concrete about 14 inches square, and it seemed to him, if the fire engines were attacking that with water, there would be grave danger of the concrete splitting off and the building collapsing. He had known of some very grave collapses where rust had got at the metal in reinforced concrete. He had heard from an engineer some time ago of some large reservoirs in Spain where the water got through fissures in the concrete and attacked the metal, which rusted very badly, and the reservoirs leaked considerably in consequence. It seemed to him that one of the gravest things in the use of reinforced concrete was the personal equation. If one could be sure

that every man had done every little piece of work thoroughly well, one was safe; but if one man was careless, he might ruin the whole structure. One had seen, of course, a lot of reinforced concrete used, and it was very common with the makers not to cover their bars with cement. It was always put in the specification, but he had again and again seen it neglected. There was grave danger, once the rust was started. If they could ensure that the metal was always covered with cement they were safe. Supervision was of the greatest importance, and skilful workmen were of still greater importance.

Mr. J. J. Burnet, A.R.S.A. [*F.*], said he did not mean to raise any technical discussion upon reinforced concrete. He wished to ask a question which perhaps was a little premature, but the discussion showed how very varied were the opinions, not of the use of reinforced concrete, but of its construction, and what he rose to ask was, how far were they going with this? As a member of the Institute he was deeply sensible of the obligation they owed the Committee for the production of this Report, but he would be exceedingly nervous if there were the least chance of its being issued, and being taken as a text-book issued by the Royal Institute of British Architects. He seriously doubted the advisability of the Institute issuing any such text-book.

Mr. William Dunn, replying to Mr. Hall as to stanchions and the action of fire, said he thought reinforced concrete had had a very good test in regard to the action of fire upon it in the Baltimore fire, where numerous buildings in reinforced concrete were exposed to probably more severe fire than they ever could have been here. If a stream from the fire hydrant were directed upon a brick pier under very high pressure, combined with heat, the corner first and probably the whole pier would be knocked away. He had had some little experience of the power of a stream of water at close quarters: it would batter down a thick wall in course of time. Reinforced concrete at an inch or two back from the surface had vertical steel rods bound together with iron wire at intervals, and the columns as recommended to be made in this Report had the corner splayed off. The corners are the source of weakness, and they are to be splayed off. No fireman in his senses, he should think, would direct the fire hydrant at high pressure at any structural support. That would, he imagined, have an equally great effect upon a piece of brickwork. Reinforced concrete had been so well tried under the action of fire that one had no fear about those things. As to what Mr. Burnet said about the Institute issuing this Report as a text-book, or with the support of its authority, he conceived that the whole object of the Report was that it should be issued. The great majority of members of the Institute were likely enough any day to use reinforced concrete. Hitherto they had been in the hands of patent manufacturers, who all came to them with most wonderful tales (and the less one knew about it, the more wonderful were the tales) of what it would do. They wanted something authoritative on which they could say, "If you make me an estimate, base it upon these Rules." Those Rules were in all practical matters the same as those which had been adopted by the Prussian Government, the French Government, and other Governments who had conducted long and elaborate experiments. To fail to adopt this Report would be to render all this labour of no avail, and to leave architects without any of that guidance which they all felt necessary, and he should ask the Institute to consider very seriously before rejecting the Report. It was a thing they all wanted. He was quite sure that everybody felt the need of it. Public bodies required it, private individuals required it, and the names of those on the Committee were sufficient guarantee. Professor Unwin was a man of world-wide reputation, who would not put his name to anything that was not perfectly sound, and there were other gentlemen—Mr. Marsh, Colonel Mayne, Sir Henry Tanner, and others—who had worked out this question, and given them the benefit of their study and labour. To fail to adopt the Report would be a great mistake.

Mr. Burnet said he was sorry if his remarks had tended to throw any doubt upon the value of the Report or the eminence of the names which were attached to it. He had no intention of so doing; his plea was simply for the consistency of the Institute. They in the Institute were architects and designers, and they had to take the responsibility for every material they used. Text-books, as it seemed to him, were to be issued by their authors, and the Institute, with all deference, was not entitled to be the author of text-books, or, as a body, to accept a responsibility which ought to be incurred by the individual or individuals who published a text-book. That was only his opinion; he thought it was a sound one, or he would not trouble the Institute with it.

Sir Henry Tanner, in responding, said that those who had made a study of reinforced concrete had, of course, great regard for it in the future. So far as he himself was concerned, he had started about three works with it, one of which was rather a large one, so that he had some sort of faith in the work. As to economy, there was no question about it. One of the works he had in hand in this material cost about twopence a cubic foot for the carcase—of course without any finishings—merely the reinforced concrete. They could not touch that under certainly twice the sum of money in any other material. Mr. Hall had referred to some reservoirs in Spain. So far as his experience of that country went, he did not think whatever happened in Spain need be regarded as of any moment whatever. He was in Madrid at the time of the accident to the Madrid Reservoir, when there were about thirty

people killed and three or four times that number injured. The work was altogether too slight for its purpose. It was no wonder the accident happened—it was bound to happen sooner or later. With reference to what Mr. Burnet had said, Mr. Burnet looked upon it from another point of view altogether. There was, of course, not much art about reinforced concrete. It was really a practical matter, and one could not get much beauty out of it, he must confess; but at the same time, in works of any magnitude, it was incumbent upon architects to make use of it where cost was of any moment. Wherever one could economise there was no object in spending money; therefore it was a right thing to use. Other materials could be used for the fronts and all the visible parts where appearance had to be considered. It was no good burking the question; reinforced concrete would have to be used. Then if the architect chose to go to a specialist to devise such a building for him he did not see how he could get away from responsibility entirely. He himself had employed an agent of a well-known patent in two cases; but he (the speaker) had to bear the brunt if anything went wrong; therefore he had to see that what the specialist was doing was likely to prove satisfactory. He did not think his department would be satisfied with him altogether if anything happened to one of those buildings which he had suggested should be put up, notwithstanding that they employed a specialist, and paid him his percentage, just as they should any engineer they employed. All the other questions he thought had been replied to by Mr. Dunn, Mr. Marsh, and Major Paul, and he did not think he could usefully add anything. His experience was not very old in this material; but at the same time he had great faith in it, and that, he thought, he had shown.

THE PRESIDENT: It is my duty now to put to the Meeting that this provisional Report be adopted by this Meeting. I presume that it is a provisional Report, and the Committee will take into consideration some of the criticisms which have been made here to-night.

Sir HENRY TANNER: We thought, subject to any possible errors being put right, the Report would be adopted now.

THE PRESIDENT: Then I put it that, subject to these criticisms being considered by the Committee, the Report be now adopted. The President, continuing, said he did not quite agree with Mr. Burnet's fear that they should not put this forward from the Institute. The stone on a building was, after all, more or less of a veneer; it was not altogether construction. It did not matter very much whether that was backed up by brickwork or by reinforced concrete. It must have a backing of some kind, and, if reinforced concrete was cheaper and more substantial than brickwork, he did not see why as architects they should not adopt it. Of course, one would imagine that it was going to make a revolution in architecture altogether. It might or it might not. He did not think it would make such a revolution as the steamboats did with shipping; but if it did, let them hope that the architects of the future would be able to make an architecture equal to the naval architecture of their own battleships nowadays. He himself knew nothing of this subject, so that he would not speak technically upon it; therefore he would just put to the Meeting that this very interesting Report be adopted by the Institute.

The motion was carried unanimously.

THE PRESIDENT: Mr. Slater also moved a vote of thanks to the Concrete Committee, which was duly seconded, and which I have very much pleasure in putting to the Meeting. The Committee have spent an enormous amount of their very valuable time in producing this Report, and I am sure that the thanks of this Meeting and of the whole Institute are due to the Committee for their labours.

The vote was carried by acclamation.

Mr. F. T. READE [*H.A.*] sends the following contribution to the discussion:—

I have read the Committee's Report, and most thoroughly agree with them in their proposals as to the quality of the materials and the rigid testing of same. But the part of their Report that appeals to me is in the words following: "Structures of this kind appear to be trustworthy," and, in my opinion, for columns and girders it is an *appearance* of trustworthiness only. There is no doubt that for fire-resisting roofs, dormers, and partitions, and for fire-resisting floors, ferro-concrete can be used with the best results; but for columns and girders this principle of construction is extremely risky and unreliable. The use of two such heterogeneous materials as concrete and steel in the construction of girders and columns would be sufficient to condemn the construction in the mind of any engineer out of a lunatic asylum. The dreadful catastrophe in the failure of the Roo Dee Bridge, near Chester, about the middle of the last century was ascribed to the use of cast and wrought iron, in the same structure, under improper conditions, and it is clear that these two materials approximate to homogeneity far more closely than concrete and steel. The failures of beams so constructed have been many, and we need not wonder at them when we remember that the designers of ferro-concrete beams trust largely to what may be called "stickshon," or the adherence of the concrete to the surface of the steel, for resistance to the various stresses in the beam; and even if "stickshon" could be considered reliable, how can we expect to get it when we know that the filling-in of the centering is done by an unskilled workman whom someone has defined as "a fool with a spade"? And now as to the comparative cost of these beams and steel joists and riveted girders: I notice that the Report gives the working stress of the tension

bars of ferro-concrete beams as seven tons per square inch. This is the usual stress provided for in the bottom flanges of steel joists and riveted girders; consequently the area and weight of these flanges and of the tension members must be equal, and for the upper part of the concrete beam: when the cost of the concrete, the centering for same, the shoring of the centering, the careful punning of the concrete by "the fool with the spade," and finally the striking of the shores after waiting from four to twenty-eight days for proper setting of the concrete—when all these items are paid for, I do not believe there will be much financial gain by the use of ferro-concrete beams, and where they *are* used you have a risky and unreliable form of construction, also a tedious process of fixing, whereas by the use of steel joists or girders you have a perfectly safe and easily fixed construction which requires no centering, and can be loaded up one hour after fixing. I notice the Report assumes that ferro-concrete girders may be made continuous; the continuity of the girders will increase the load on the columns, and for a warehouse of four floors above the ground the load from columns at ground level might easily be 200 tons, and with this load resting on the continuous girder where the bending moment is greatest I think the ferro-concrete beam would certainly be crushed. The junctions of these beams and columns must always be a weak point, for I have never yet seen any attempt to produce on a concrete column any projecting brackets to receive the ends of girders where non-continuous. In the case of ferro-concrete columns being made continuous through four or more floors I have never been able to imagine any possible satisfactory junction, so I conclude that even the most enthusiastic ferro-concreter never contemplated the possibility of making and delivering a column about 60 feet long. It will be in the memory of many architects that in the old days the junction flanges of cast-iron columns and stanchions were *not* turned, and absurd packings of sheet lead were put between the flanges with the hope of getting something like a uniform bearing. This has long been discontinued, but even that "tin pot" form of construction might be considered almost perfection when compared with any junction of the ferro-concrete columns. And, finally, I do not think that any safe scheme has yet been designed for discharging the accumulated loads up to, say, 200 tons in the basement on to the brick footings and concrete. There are many formulæ for calculation in the Report, and no doubt it would be possible to devise similar formulæ for many materials, such as dried clay, or even stale quartern loaves, of course reducing considerably the stress limit; but I would strongly advise all architects not to be influenced by the apparently safe results of any calculations, but to sternly banish all ferro-concrete beams and columns from any buildings they may be constructing or designing. Cast iron columns or stanchions, or riveted sections for same in steel, and rolled steel joists, and riveted girders, when cased with concrete, are just as reliable as the ferro-concrete for fire-resisting purposes, and not much more costly.

Mr. L. H. Rugg, A.M.Inst.C.E., Chairman of the Junior Institution of Engineers, writing since the meeting, states that it gave him much pleasure to attend the meeting as a guest, but regrets that the time at the disposal of the meeting did not admit of a fuller discussion. The Junior Institution of Engineers and the Discussion Section of the Architectural Association had a joint Paper on this subject last year, when the discussion was continued over two evenings. Referring to the matter of the Provisional Report, Mr. Rugg draws attention to the vast difference in concrete aggregates and percentages of reinforcements in various designs, and continues:—

Architects are frequently called upon to decide on the merits of several schemes. Cinder and rock concretes enter into competition, and reinforcements varying from $\frac{1}{2}$ to $2\frac{1}{2}$ per cent. Cinder concretes of low crushing strength are cheap, furnace clinker and hardcore forming the chief constituents, all of which can be purchased in the neighbourhood of 2*s*. 6*d*. per cubic yard. On the other hand, screened Thames ballast to pass $\frac{3}{4}$-inch ring with the sand taken away or similar broken stone or granite would cost more than twice this amount. The best plan is to require the exact crushing strength of the concrete proposed, and take one-fourth or one-fifth, as mentioned on p. 7. In regard to reinforcement, a very simple plan is to divide the bending moment by two-thirds of the depth of the beam in order to obtain approximately the total stress. This divided by the area of metal provided would give the approximate stress per square inch for purposes of comparison.

The importance of supervision cannot be overrated, especially when the builder who is taking over the whole contract is allowed to do this work. In general, the best plan is to allow firms specialising in this work to sub-contract for the same. These firms have a reputation to keep up, and will exercise careful supervision themselves; but it is equally desirable to employ one's own inspection as well. Eventually, no doubt, large works in reinforced concrete will be confined to a few firms only who can be implicitly trusted.

No mention is made as to deflection in the Provisional Report. This is an important point, and should have consideration. It would appear desirable to fix a minimum depth for given spans, for, although the same strength may be present in two different designs, yet the deflection in one of them might be a serious item. Floors should be tested to 50 per cent. of the safe loads. It is also important to note that the safe loads should be over and above the dead loads, which are frequently very considerable in ferro-concrete structures. In

regard to sub-paragraph 3, on page 6, a difference should be allowed for warehouses compared with factories or office buildings. Warehouses may frequently be loaded to the full extent on each floor, and no deduction should be made in descending floors for this class of building.

No notice is taken in the Report of the fact that horizontal reinforcement in columns adds very materially to the strength. Five hundred pounds is low where plenty of horizontal reinforcement is used. This is most important, as the lower columns for a tall building (especially a warehouse, as mentioned above) will be absurdly large. It is recommended that a better class of concrete be invariably used for columns, together with ample horizontal reinforcement. The actual amount of material in columns is small, and the extra cost for first-class material is consequently small also. By this means column diameters can be reduced, and the safety of the structure will be equally as good.

In conclusion, it is necessary to call attention to the necessity for machine mixing on all work other than the smallest jobs. Concrete cannot be satisfactorily mixed by hand, as one batch badly mixed may happen to be placed where the maximum strength is demanded. In regard to machine mixing, batch mixers should be employed, and not continuous. Every batch is then known to have exactly the right proportions for the concrete.

THE DEVELOPMENT OF LONDON.

THE continually chaotic growth of London must cause the greatest apprehension as to what its future will be. Is it not time that the influence of the Institute was brought to bear on this important matter?

It appears to me that it should be the urgent duty of the Royal Institute of British Architects to interpose before it is too late in the interests of the future artistic development of London. It is surely not too much to ask of the Municipal Government of London that it should seek the advice of a body representative of the architecture of Great Britain on all matters which concern the artistic aspect of the city. It is not fair to the members of a great profession that its representative council should be left out of count in matters which so closely concern it, and on which it claims a right to expert opinion. If we compare the state of things in London with that of other important centres, even of our own provincial towns, we shall find that London shows relatively little regard to the opinion of experts on matters of art. It is incredibly foolish that on such subjects as the Traffic Commission no architects were appointed; yet the Commission ought to have been as much concerned in the architectural point of view as any other. Mere engineering feats of practicability are not everything, and the artistic direction of such matters is a thing of paramount importance.

One by one every fine chance in London is being lost. It is lamentable to think of what Ludgate Circus might have been; it is still more pitiful to see the magnificent opportunity that was in waiting all about the great Strand improvement. Here was a basis of Somerset House and Waterloo Bridge which offered one of the finest points of departure that the greatest enthusiast could have dreamt of. Trafalgar Square, which it is pretended is the finest site in Europe, is a mere dumping ground for ugly hotels and shipping offices and business establishments. Buckingham Palace and its magnificent Mall have only been saved by the exceptional ability of an architect who could combine art with common sense. Hyde Park Corner is an incoherent jumble of stupid lines. Piccadilly Circus is distinguished by the equally opposing claims of a singularly clever but unsuitable fountain and a graceless urinal. Oxford Circus, Langham Place, and Portland Place, with Regent's Park in line beyond, are waiting for a fine scheme. The County Hall site and the southern Thames Embankment will follow in the wake of all the other failures unless something better than engineering designs are allowed to prevail.

It would be beyond the limits of a note of this kind to complete a list of the opportunities which lie in waiting for London. Even with all the lost chances there are enough left to be worth taking account of. We may well take a lesson from those which are now lost beyond recall, and set to work to plan developments which shall lead up to something more worthy of the greatest city in the world. I can imagine enough work laid out in this direction for the Institute through its Art Committee to last it for many years, and to absorb the best talent which can be laid under contribution. At present we are all asleep as a public body. Mr. John W. Simpson,* Professor Beresford Pite,† Mr. Paul Waterhouse,‡ and others have sufficiently proved by their writings that there are some at least amongst us who can take wide, enthusiastic, and withal practical, views of this great subject. And the marvel of it is that nothing happens.

The reading of papers appears to lead to no practical result, and I suggest that a definite and practical step be taken by the Institute in this matter, and that a more or less *permanent* committee be appointed to work in collaboration with the Art Committee to deal with it.

T. RAFFLES DAVISON.

* JOURNAL R.I.B.A., Vol. XII. 3rd series, p. 341.
† *Ibid.* p. 356.
‡ *Ibid.* Vol. XIII. p. 373.

A WORD-PAINTER OF ARCHITECTURE.

AFTER a long and painful illness the death is announced from Paris of Joris Karl Huysmans at the comparatively early age of fifty-nine.

As a young man Huysmans entered the Department of the Interior, where his orderliness and precision marked him out for advancement; but it was as an author, not as a functionary, that he was destined to become famous. His first book, *Le Drageoir aux Épices*, for which he had some difficulty in finding a publisher, appeared in 1875. It was followed by *Marthe, ou l'Histoire d'une jeune Fille*, *Les Sœurs Vatard*, and others, which showed at that time his sympathies lay with the "naturalists"; indeed, so intimate was his connection with them that he assisted Zola in the publication of the weekly "organe du naturalisme," *La Comédie humaine*.

But with Huysmans naturalism was only a passing phase which gave place, strangely enough, to mysticism, to which he abandoned himself so completely that the whole course of his life was changed. He left his rooms in the Rue de Sèvres, which he had occupied for thirty years, and retired to Ligugé, near to Poitiers, where, under the shadow of the abbey, and afterwards in Paris, whither he returned upon the expulsion of the Benedictines, he passed a life half literary and half religious, and wrote the books of his later manner, *La Cathédrale*, *L'Oblat*, *Sainte-Lydwine de Schiedam*, and others. It is principally as the author of the first named that his death deserves to be noticed in the JOURNAL.

As Mr. Street remarked in his review which appeared in the JOURNAL of 27th August 1898, the story, such as it is, of *La Cathédrale* passes in Chartres, and the book is largely made up of lengthy architectural descriptions, principally but not solely of Chartres Cathedral and its surroundings. As an example of its style one might quote some parts of the passage in which Durtal, the hero of the story, reviews some of the towers with which he is acquainted. "Examinons," says he, "les tours de Notre-Dame de Paris, elles sont mastoques et sombres, presque éléphantes; fendues dans presque toute leur longueur, de pénibles baies, elles se hissent avec lenteur et pesamment, s'arrêtent; elles paraissent accablées par le poids des péchés, retenues par le vice de la ville au sol; l'effort de leur ascension se sent et la tristesse vient à contempler ces masses captives que navre encore la couleur désolée des abat-sons." From Paris he turns to Rheims. "A Reims, au contraire, les tours s'ouvrent du haut en bas, en des chas effilés d'aiguilles, en de longues et minces ogives dont le vide se branche d'une énorme arête de poisson ou d'un gigantesque peigne à doubles dents. Elles s'élancent aériennes, se filigranent; et le ciel entre dans ces rainures, court dans ces meneaux, se glisse dans ces entailles, se joue dans les interminables lancettes, en lanières bleues, se concentre, s'irradie dans les petits trèfles creux qui les surmontent. Ces tours sont puissantes et elles sont expansives, énormes, et elles sont légères. Autant celles de Paris sont immobiles et muettes, autant celles de Reims parlent et s'animent." Then he goes on to speak of the towers of Laon with their lowing oxen, of Amiens, of the central tower of St. Ouen, and others, and concludes: "Mais, quand même, la tour, sans le clocher qui l'effile, ne se projette pas dans le firmament. Elle s'élève toujours lourdement, halète en chemin et, exténuée, s'endort. Elle est, un bras sans main, un poignet sans paume et sans doigts, un moignon; elle est aussi un crayon non taillé, rond du bout, qui ne peut inscrire dans l'au-delà les oraisons de la terre; elle reste en somme à jamais inactive."

This, especially the concluding sentences, is a good example of Huysmans's love of strange and unexpected figures. Surely no one else has ever compared a tower without a spire to a wrist with neither palm nor fingers, to an arm without a hand, to a mere amputated stump. Still less has anyone else ever thought of likening it to a pointless pencil unable to write the prayers of earth upon the clouds of heaven.

For the invention of singular and unexpected metaphors to force home his descriptions, Huysmans possessed an extraordinary ability. Take this picture of the entrance to the Abbé Gévresin's lodging at Chartres:—"Ils gravirent un escalier étroit, bordé d'une rampe rouillée de fer. Les murs ruisselaient d'humidité, secrétaient des roupies, distillaient des gouttes de café noir; les marches étaient creusées, s'amincissaient du bout ainsi que des cuillers; elles conduisaient à une porte badigeonnée d'ocre dans laquelle était planté un bouton de fonte, couleur d'encre. Un cordon de sonnette balançait un anneau de cuivre qui se cognait remué par le vent, contre le plâtre éraillé du mur. Une indéfinissable odeur de vieille pomme et d'eau qui croupit, s'échappait de la cage de l'escalier, précédé d'un court vestibule que pavaient des rangées de briques, couchées sur le flanc, rongées à la façon de madrépores, que plafonnait une sorte de carte de géographie, sillonnée de mers dessinées comme avec de l'urine par des infiltrations de pluie."

In this passage the figures employed are grotesque, inelegant, even coarse; but they are only means to an end. That end is to picture the whole scene complete to its minutest detail; and that accomplished, the means, whatever they may be, are justified. That Huysmans does succeed in attaining his end is unquestionable. The neglected staircase with its rusty hand-rail and worn steps, the damp oozing from the walls, the bell-rope blown hither and thither by the wind, every detail is brought before us as vividly, as distinctly, as realistically, as by a photograph.

For the architects of the present day Huysmans

had a great contempt. "Les gens qui s'affublent de ce nom," he makes Durtal say of them, "sont des cambrousiers, des maçons dénués de tout personnalité, de toute science. Ils ne sont seulement plus capables de plagier adroitement leurs devanciers! Ils sont quoi, maintenant? des rapetasseurs de chapelles, des ressemeleurs d'églises, des fabricants de ribouis, des gnaffs!"

But we need bear him no ill-will for his hard words. He is dead, and the world is the poorer by the loss of a man who possessed in an eminent degree, not only the power of seeing, but also the perhaps rarer power of conveying to others his impressions of the things which he had seen.

BENJAMIN WALKER.

Erdington.

COUNSEL'S OPINION.

Architects and the Workmen's Compensation Act.

As stated in the Annual Report of the Council (*ante*, p. 460) questions regarding the Workmen's Compensation Act on various points in which architects are likely to be affected have been submitted by the Council to Mr. Alfred Henry Ruegg, K.C. The learned Counsel has given his opinion as follows:—

OPINION.

The following questions have been submitted to me under the Workmen's Compensation Act 1906:—

1. *Under the Act will the Client or Building Owner be responsible or actionable for accident or damage that may happen to the Clerk of Works* (a) *if paid directly by him, or* (b) *if paid by the Architect, the latter being in this case virtually the Agent for the Client?*

I am of opinion that the Client or Building Owner will be responsible or actionable for accident or damage that may happen to the Clerk of the Works, whether he be paid directly by the Client or Building Owner, or by the Architect as Agent for the Client or Building Owner. If employed and paid directly by the Building Owner no question can arise. He is clearly the servant of the Building Owner.

If paid by the Architect—as I understand he is generally selected by the Architect and conforms to his orders—care must be taken to make it quite clear that the Architect is only the Agent of the Building Owner.

To this end I should advise that a small printed form should be drawn up and adopted by the Architects of the Institute to the effect that they engage "A. B." as Clerk of the Works on the Buildings as Agent for and on behalf of "C. D.," the Building Owner. The form should also contain a clause that "A. B." agrees to serve the Building Owner for the consideration set forth, and to obey the orders and directions given by the Architect on behalf of the Building Owner.

I understand that in all cases the money comes from the Building Owner, and is never paid by the Architect out of his commission.

2. *Is the Architect liable for damage or accident that may happen to his Assistant when employed either in his office or superintending works of Buildings in progress?*

I am of opinion that the Architect is liable for damage or accident that may happen to his Assistant either when employed in his office or when superintending works of Buildings in progress.

The Assistant, whether himself an Architect or not, is, I understand, a permanent servant of the Architect, employed and paid by him, and under his sole control.

In each of the above cases it is necessary that the accident should arise out of and in the course of the employment, and that it should not (except where the injury results in death or serious and permanent disablement) be attributable to the serious and wilful misconduct of the injured person himself. (Section 1.)

It is also necessary (except where the employment can be described as manual labour) that the remuneration should not exceed £250 a year. (Section 13.)

3. *What is the position occupied by Architects under the Workmen's Compensation Act* 1906 *with respect to their pupils, articled to them by Indenture in the form used by the Royal Institute of British Architects?*

I am of opinion that a pupil so articled is a workman within the meaning of the Act; and that the Architect to whom he is bound is his employer, and consequently liable as hereafter stated to pay compensation to the pupil or his dependants in case of injury or death arising from accident happening in the course of his employment and arising out of his employment.

The relation of master and servant, or employer and workman, arises out of a contract of service. Apart from the express covenant in the Articles of Pupilage, a contract of apprenticeship is a contract of service, and of itself establishes the relation of master and servant.

An apprentice receiving no salary is in my opinion not entitled to weekly compensation under the 1st Schedule (1) (b) of the Act, for the compensation is based upon the "earnings," and cannot exceed 50 per cent. of such earnings. In case of death also, when no salary has been paid, I think no compensation becomes payable, for the claim of

the dependants must be founded upon dependency, either total or partial, on the deceased workman's "earnings" at the time of the death—Schedule 1 (1) (a). Where a small salary is paid by the Architect, I think the pupil would be entitled to receive as weekly compensation a sum not exceeding 50 per cent. of whatever such salary, when computed into weekly payments, amounts to.

If the injury results in death, and the pupil who is receiving a salary leaves dependants wholly dependent on his earnings at the time of death, the dependants would become entitled to a sum equal to the earnings of the pupil for the three years preceding the death, if he has been so long employed, with a minimum of £150. If the pupil had not been employed for three years, then the sum would be 156 times his average weekly earnings during the period of his actual employment as a wage-earning workman.

In case of death, where the dependants are not wholly dependent, such a sum, not exceeding the above amounts, as an arbitrator might think reasonable.

I must point out that if the pupil is under twenty-one years of age at the date of the injury, and his average earnings are less than 20*s*. a week, he may be awarded 100 per cent., instead of 50 per cent. of such earnings, in case of incapacity, but not in any case exceeding 10*s*. a week—Schedule 1 (1) (b) (c)—and where, in such a case, the amount of compensation is reviewed after twelve months, the compensation may be increased to 50 per cent. of the weekly earnings which the workman would probably have been earning at the time of the review, if he had not been injured—Schedule 1 (16).

4. *What is the liability (if any) of the Building Owner towards the Architect employed by him?*

I am of opinion that (except in the unusual case of an Architect in the permanent employment of a person, or public body, who has contracted to serve such person or public body and to perform his duties under their control, and who receives less than £250 a year) the Architect is not a servant or workman of the Building Owner, and such Building Owner incurs no liability to him under the Workmen's Compensation Act 1906. The Architect who undertakes to superintend building operations for a commission does not enter into the service of the Building Owner, or contract to serve him. He is in law a contractor, and, so long as he carries out the terms of his contract, is quite independent of any control on the part of any Building Owner.

SPECIFICATION FOR PAINTS.

[JOURNAL, p. 479.]

THE specification published in the last number of the JOURNAL seems open to a few obvious criticisms from a practical standpoint.

To begin with, it is not stated whether the percentages include the oil in which the colours are ground, and most colours for painting are purchased already ground in oil.

The matters most affecting quality in painting are the purity of the white lead and of the linseed oil. I am not a chemist, but the specification of the white lead appears quite inadequate. It might at least define that it should contain no foreign substance. The linseed oil is not mentioned, except in connection with terebine; and in that experiment the time of drying might depend on the purity of the oil. It is important that even pure linseed oil (and much of that sold is *not* pure) should have been stored for at least twelve months.

Varnishes, when used, come next in importance to oil. The specification treats them all together, and names "best pure gums and oils"—a perfectly vague definition. Varnishes differ, and are used for very different purposes. The best varnish for a garden gate is not the highest-priced varnish which would be used in a drawing-room. The varnish for use on a lavatory paper is not made with oil at all, but with turpentine. A varnish for external use should *not* be a quick-drying varnish, and would not dry in twenty-four hours in cold or damp weather. A good interior varnish would in dry summer weather dry in half the time. The specification test is illusory. If the surface on which it was used were at all greasy, the best of varnishes would not dry at all.

English Gold Leaf.—Nothing can be worse than the specification "unadulterated with any foreign material, and must be supplied to whatever tint is required." The thickness or weight of gold is not alluded to. All gold leaf must contain alloy. Pure gold cannot be handled as leaf. The tint depends on the nature and quantity of alloy, which should be limited to a percentage maximum. For deep-toned gold leaf, copper is the alloy; for pale gold, silver.

With such pigments as purple brown, Indian red, Venetian red, burnt sienna, the important matter is that they should not be artificially stained with fugitive vegetable or aniline colours, and that they should be finely ground.

Altogether the specification exposes the painter or contractor to a number of adverse and illusory tests, and does not provide practical or useful tests.

J. D. CRACE.

9, Conduit Street, London, W., 1st *June* 1907.

CHRONICLE.

The County Hall Competition.

The Special General Meeting convened by the Council on the requisition of members to discuss the Conditions of the County Hall Competition was duly held on Tuesday, 28th May. There was a good attendance, and the meeting lasted two hours and a half. Exigencies of time and space do not admit of the discussion being included in the present issue; but the gist of the proceedings is given in the Minutes printed at page 512, and the discussion will be reported in the next number of the Journal, together with the correspondence between the Institute Council and the London County Council which was read at the Meeting.

Resignations from the Council.

Messrs. J. S. Gibson, A. W. S. Cross, C. E. Mallows, and H. V. Lanchester have resigned their seats on the Council for the remainder of the Session.

Visit to Edinburgh and Annual Dinner, July 4-6.

Members have already had intimation that the Annual Dinner is to be held this year at Edinburgh on Friday, 5th July, during the visit which the Institute is making to that city at the invitation of the Edinburgh Architectural Association. A very interesting programme has already been drawn up by the Association. The first function of the visit will be an evening reception given to the Institute by the Lord Provost and Magistrates of Edinburgh in the City Chamber on Thursday, 4th July. The arrangements for Friday the 5th and Saturday the 6th are as follows:

Friday, 5th July.—9.30 a.m. Visit to Edinburgh Castle, under guidance of Mr. Hippolyte J. Blanc, R.S.A., President E.A.A.—11.30 a.m. Visit to St. Giles' Cathedral, under guidance of Mr. Thos. Ross, F.S.A. Scot.; and to Parliament Hall, under guidance of Mr. W. T. Oldrieve, F.S.I., H.M. Principal Architect in Scotland.—1 p.m. to 1.45 p.m. Luncheon at the Carlton Hotel, North Bridge Street.—2.15 p.m. Visit to Holyrood Palace and Chapel, under guidance of Mr. W. T. Oldrieve, F.S.I.—4.15 p.m. Visit to the Edinburgh Architectural Association's Exhibition of Drawings and Photographs in the Royal Scottish Academy, National Gallery.—Afternoon tea will be served in the Academy.—7.30 p.m. R.I.B.A. Annual Dinner in the Caledonian Station Hotel, Princes Street.

Saturday, 6th July.—Visit to Roslin Chapel and Roslin Castle, under guidance of Mr. Thos. Ross, F.S.A. Scot.—Informal visit to George Heriot's Hospital School, Lauriston. Conductor, Mr. Hippolyte J. Blanc, R.S.A.

As is usual on these Institute visits, ladies may accompany members on all the excursions, &c. Special railway arrangements will probably be made for members and their friends travelling from London on Thursday the 4th.

Post Office Buildings.

Mr. Sydney C. Cockerell, in a recent letter to *The Times*, calls attention to the unsatisfactory character, architecturally, of the buildings put up by the Post Office authorities in every town and nearly every large village in England. "An opportunity," he says, "is given them for setting an example of reasonable and comely building throughout the land, such as was set in the metropolis by the School Board when it dotted London with the unpretentious but handsome and beautifully proportioned schools which are the only agreeable things one can see from the train in many of the poorer districts. The London County Council has admirably followed this lead in its fire stations and workmen's dwellings. But wherever one goes the post-office is pretty certain to be a veritable eyesore, totally unworthy of a great department. One may guess that the decision as to the character of a new building is too often left to the taste and judgment of the local postmaster, acting in concert with a local and unenlightened architect. Whether this be so or no, every one will admit that the result is usually deplorable, and that an architectural department of quite another kind from that at present existing is sorely needed at St. Martin's-le-Grand."

The World Capital at the Hague.

Mr. James S. Gibson [*F.*] writes in the *Review of Internationalism*:—

The proposals to found a World Capital at The Hague, to which Dr. Eijkmann and Mr. Horrix have given such great attention, and the preliminary plans prepared by Mr. K. de Bazel for the laying-out of such a city to the north of The Hague were matters of considerable interest to me when I went to Holland and walked over the site, which at present consists of sand dunes and wooded lands extending along the sea coast.

The site itself, which I believe is the property of the Dutch Government and the Municipality of

The Hague, is an admirable one from the point of view of its proximity to the present city (to which it could easily be linked by means of an electric tramway) and affords exceptional opportunities for the laying-out of an ideal city.

It is greatly in favour of such a project that no existing structures need be destroyed or removed to make way for the development of such a city.

The land at present is in the natural state, and it is proposed to retain as many of its natural characteristics as possible, and to take advantage of these in forming the different parts of the proposed World Capital.

An important part of the scheme is to establish a number of international institutions; these being large and imposing structures would form a centre round which the city might be grouped, and would give an architectural character to the central part.

It is very rarely that such an opportunity occurs to lay out on virgin soil the scheme for a complete town, with its different divisions necessitated by the requirements of the inhabitants who are to carry on therein the work of their lives, and I think that this opportunity has been admirably handled by those men who have devoted so much time, thought, and skill to the maturing of the idea.

The site in itself is exceedingly suitable, and the manner in which the project has been considered argues well for its successful carrying out. I feel confident that its fruition will be watched with great interest by all thinking people, while its architectural development should secure the hearty sympathy and co-operation of all architectural societies throughout the world.

Commendatore Boni's Visit to England.

Commendatore Giacomo Boni [*Hon.Corr.M.*], Director of Excavations in the Roman Forum, has just completed a course of lectures on Recent Discoveries in Rome, delivered under the auspices of the University of London at King's College. The distinguished lecturer dealt with (i.) The Geological Conditions of the Site of Rome, and its Primitive Inhabitants; (ii.) Rome before Romulus, and its Burial Places; (iii.) The Religion of the Early Romans, and its Monuments; (iv.) The Forum and Comitium as Centres of Political Life to the End of the Republic; (v.) Recent Discoveries of Imperial and Early Mediæval Remains in the Roman Forum; (vi.) Late Researches in the Forum of Trajan, and Projected Explorations.

Commendatore Boni, lecturing before the members of the British Academy on "The Column of Trajan: Latest Researches," said that it was in March 1906 that he turned his special attention to the Column of Trajan. At that time it had been believed by archæologists that the column had been erected to indicate the height of a hill cut away in order to level the area for the Forum Ulpium, and it was doubted, or denied, that the column had been used as a sepulchre. As this view did not seem to be in accord with the few statements of ancient writers on the subject, and as the dedicatory inscription (AD . DECLARANDVM . QVANTAE . ALTITVDINIS . MONS . ET . LOCVS . TANTIS . OPERIBVS . SIT . EGESTVS) did not clearly confirm it, he thought it essential in the first place to try to ascertain whether the column did or did not actually contain a sepulchral chamber. There was on the southern side of the pedestal a loophole (like those admitting light into the spiral staircase), and in the inner vestibule at the base of the column there were still visible traces of a door which had been walled up and plastered over. Commendatore Boni removed the plaster, cut away part of the masonry, and found that the door led into a small atrium, turning to the right, where a second door was discovered. This second door led into a chamber 10 feet long, 5 feet wide, and 6 feet high. On the outer wall of the chamber were the bricks which closed up the loophole which had first attracted his attention on the outside. Within this chamber were the remains of a funeral table, 2½ feet high and 4 feet wide. Just above the table, in the marble wall of the chamber, holes had been drilled in such a way as to suggest that clamps going out from the wall had supported on the table two urns, one towards one end, one towards the other of the table. Now an inscription, still preserved in the Vatican Lapidarium, stated that Hadrian had erected a temple *parentibus suis* in honour of his parents "Trajan and Plotina." This temple had stood close to the column, and as it was the custom to erect such temples close to the burying-place of the persons to whose honour they had been erected, the natural conclusion was that the chamber was a sepulchral chamber, and that the table had supported two urns containing the ashes of Trajan and his wife, the parents of Hadrian. The main object of the column was therefore plainly that of a sepulchral monument, and in Commendatore Boni's opinion the somewhat obscure words of the inscription, which had given rise to the belief that the object of the column was to indicate the height of a hill cut away, had been misunderstood. On making careful trigonometrical calculations of the height of the column, he found that it was a *columna centenaria* exactly 100 feet high, so exactly, indeed, that by means of it the length of the Roman foot could be ascertained with greater precision than had hitherto been reached. It was, to say the least, unlikely that any hill would have been so exactly of this height. Furthermore, ancient authors in their references to the Forum Ulpium had made use of such expressions as seemed to exclude quite decisively the existence of any hill on the spot now occupied by the column. To make sure of this point Commendatore Boni dug various pits in the vicinity, and also across the whole width of the valley occupied by the Forum Ulpium. He found that on the level which

would have been formed if a hill had been cut away there were not the geological strata which in that case would have been laid bare, but remains of early imperial and republican work, such as roads, foundations, and drains. Especially interesting were the unmistakable traces of a wall made of blocks of tufa, exactly like those used in the fortifications still extant on the adjoining slopes of the Quirinal. These were, no doubt, the remains of the fortifications which we know, from Livy, to have been built in the fourth century B.C. on the retreat of the Gauls. This was decisive proof that long before the column was put up the valley between the Quirinal and the Capitol had been practically a level plain, with no hill at all upon it. Bearing in mind the important facts thus discovered, Signor Boni turned his attention again to the interpretation of the inscription, and showed that it did not, as had been supposed, refer to the altitude of a hill which it had been necessary to remove, but to the height and noble proportions of the buildings that had been erected, not only on the level of the Forum Ulpium, but also on the slope of the neighbouring hill. It was to afford a view over the forum and these buildings that the spiral staircase had been constructed inside the column, and standing place arranged at its summit, where stood the bronze statue of the emperor. The base of the statue was a *torus*—a large round moulding decorated with beautiful carvings, in the form of a gigantic wreath of laurel 20 feet in diameter. A violent blow had chipped off a large section of this *torus*, and this Commendatore Boni believes to have been occasioned by the falling down of the statue in early mediæval times, when bronzes of this kind, which stood on the summits of the arches, and other monuments of Rome, were taken down either to be carried to Constantinople, or to be transformed into church bells. The lecturer exhibited a photograph taken vertically from the summit of the column. This showed how it had fallen down, and what was the result of the fall which had caused the blow received by the statue. He also explained how he had succeeded in finding the missing fragments buried near the pedestal. These, including a fragment 10 feet long, were restored to the statue in their original position, whence they had been missing for at least twelve or thirteen centuries.

It is stated that Commendatore Boni during his visit to Cambridge was to discuss with Professor Waldstein the best means of carrying out the scheme for the excavation of Herculanæum, and that they were to be assisted by the expert opinion of Professor T. McKenny Hughes, who has made a special study of the geological stratification of Herculanæum, and will be able to advise as to the best methods of boring, tunnelling, &c. It is understood that Commendatore Boni has promised that Professor Waldstein's proposals for the excavations shall be brought before the Central Committee, whose duty it is to advise the Italian Government on such matters.

Obituary.

DAVID JENKINS, of Llandilo, Carmarthenshire, whose death is announced, was elected *Associate* 1888, and *Fellow* 1894. Mr. Jenkins had an extensive practice in South Wales. A list of his principal works is given in *The Builder* for 18th May.

WILLIAM HEWSON LEES, *Associate*, elected 1865, died 7th May in his sixty-fourth year. Mr. Lees was formerly district surveyer for S.E. Deptford, and subsequently for Holborn, E. Strand, and part of St. Pancras. He had recently resigned the latter appointment. Mr. Lees carried out the extension in Berkeley Street and the improvement of the Berkeley Hotel, Piccadilly.

GEORGE SAUNDERS, who died on the 21st May in his seventy-eighth year, had been for fifty-one years a member of the Institute, joining as *Associate* in 1856 and proceeding to the *Fellowship* in 1869. He was the architect of St. Nicholas' Parish Hall, Chiswick, and of various public elementary schools in the neighbourhood of Chiswick.

WALTER WOOD ROBERTSON, F.S.A. Scot., whose death is announced, had only recently joined the Institute, having been elected *Fellow* last December. Mr. Robertson was articled to the late John Chesser, of Edinburgh, in 1858, and was subsequently in the offices respectively of Messrs. John Holden & Son and Messrs. Speakman & Charlesworth, of Manchester. He was afterwards for six years technical clerk in H.M. Office of Works, London, and in 1877 was appointed Principal Architect and Surveyor for Scotland under H.M. Office of Works. Mr. Robertson resigned this appointment about three years ago and started in private practice. In his official capacity he carried out numerous Government buildings in Scotland, including the Royal Observatory Edinburgh, Post Offices at Glasgow, Dundee, Paisley, Inverness, Perth, Greenock, &c. He was architect of the memorial erected in Dunfermline Abbey to the Scottish soldiers who fell in the recent South African War.

SIR BENJAMIN BAKER, K.C.B., K.C.M.G., F.R.S., LL.D., the gifted engineer, designer and constructor of the Forth Bridge, died on the 19th May at the age of sixty-six. Sir Benjamin was elected *Hon. Associate* in 1896. On the only occasion on which he spoke at the Institute—viz., at the opening meeting of the Session 1904-05—he excused himself for not talking Science on that occasion; he had been married to Science, he said, since boyhood, but his real love was Art.

THE Council, at the request of the Organising Committee of the Letchworth Housing Exhibition to nominate a judge for the Exhibition, have nominated Mr. E. Guy Dawber [*F.*].

THE Council have instructed the Secretary of the Institute to attend the meeting of the Permanent Committee of the International Congresses of Architects to be held in Paris on 1st June.

THE Council have appointed Messrs. T. W. Cutler [*F.*] and J. Osborne Smith [*F.*] to represent the Institute on the General Committee of the Second International Congress on School Hygiene, to be held in London from the 5th to the 10th August next. As already stated in these columns, the President R.I.B.A., Mr. T. E. Collcutt, will preside over the section devoted to School Buildings and their Equipment, and Sir Aston Webb, R.A. [*F.*], is to open a discussion on the Lighting and Ventilating of Class-rooms.

MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session 1906-07, held Monday, 27th May 1907, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair; 27 Fellows (including 10 members of the Council), 30 Associates (including 1 member of the Council), and numerous visitors—the Minutes of the Annual General Meeting held Monday, 6th May 1907 [p. 484], were taken as read and signed as correct.

The following Fellows attending for the first time since their election were formally admitted by the Chairman—viz., John Dixon Butler and William James Kemp.

The Hon. Secretary announced the decease of the following members—viz., David Jenkins [*F.*], William Hewson Lees [*A.*], George Saunders [*F.*], Walter Wood Robertson [*F.*], Sir Benjamin Baker [*H.A.*].

Sir Henry Tanner, I.S.O. [*F.*], Chairman of the Joint Reinforced Concrete Committee, formally presented the Provisional Report of the Committee, which had previously been circulated among members, and moved that the Report be adopted, and that copies thereof, with explanatory letters, be sent to the Local Government Board and the London County Council.

The motion having been seconded by Mr. John Slater [*F.*], in the discussion which ensued some slight typographical errors were drawn attention to, and the accuracy of some of the equations was questioned by Mr. E. Fiander Etchells, F.Ph.S., visitor.

Points raised by other speakers were dealt with by members of the Joint Committee present, and finally the motion was put from the Chair and unanimously adopted, subject to such revision of the Report as the Committee may consider necessary after consideration of the criticism above referred to.

A vote of thanks to the members of the Committee for their labours in connection with the Report was put from the Chair and carried by acclamation.

The proceedings then closed, and the Meeting separated at 9.40 p.m

SPECIAL GENERAL MEETING.

At a Special General Meeting summoned by the Council under By-law 60 in accordance with the requisition of members, and held Tuesday, 28th May, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair: 59 Fellows (including 10 members of the Council) and 48 Associates (including 1 member of the Council), the Minutes of the Ordinary Meeting held the previous evening [*see above*] were read and confirmed.

The President announced that the Meeting had been called in compliance with the requisition of Messrs. James S. Gibson [*F.*], H. V. Lanchester [*F.*], E. A. Rickards [*F.*], W. G. Wilson [*F.*], Alfred W. S. Cross [*F.*], C. E. Mallows [*F.*], Herbert Read [*F.*], R. Falconer MacDonald [*F.*], Herbert W. Wills [*A.*], C. E. Hutchinson [*A.*], John Anderson [*A.*], and J. R. Best [*A.*], for the following purposes, which were duly set out in the notice-paper convening the Meeting—viz.: *A.* To consider the conditions and instructions issued by the London County Council governing the competition for a new County Hall (and any replies to competitors forming part of such conditions). *B.* To consider any action taken by the Institute Council with reference to the initiation, conduct, conditions, and instructions of the competition. *C.* To propose any resolutions which may arise out of the subjects or matters dealt with under Clauses *A* and *B*.

Mr. James S. Gibson [*F.*] read some remarks giving details of the scheme of the County Hall Competition as set out in the Instructions issued by the London County Council, and, having briefly recapitulated the recommendations made by the Council of the Institute to the London County Council in connection with the competition, went on to argue that the County Council Instructions differed from those recommendations in certain essential points, and, further, that such Instructions were in direct violation of clause 3 of the Institute "Regulations for the Conduct of Competitions" in so far as they provided for the official architect of the County Council acting as Assessor in the Competition and also conjointly with the successful architect in carrying out portions of the work.

At the request of Mr. George Hubbard, F.S.A. [*F.*], the President directed correspondence to be read which had recently passed between the Institute Council and the London County Council—viz. (1) a letter from the Institute Council, dated 26th March, urging amendment of Instructions 8 and 9 with a view to appointing the successful competitor as sole architect and the L.C.C. official architect as consulting architect; (2) the County Council's reply, dated 14th May, declining to alter the Instructions.

A discussion ensued as to the precise relationship the Instructions intended should exist between the L.C.C. official architect and the architect whose design was to be carried out.

Mr. J. S. Gibson moved that a notice be immediately published in the JOURNAL and the professional papers stating that until the conditions and instructions governing the competition for a new County Hall for London were brought into uniformity with the Regulations of the Institute all members were prohibited from taking any part in such competition; and that a copy of the Resolution should be sent to the Clerk to the London County Council.

An objection by Professor Beresford Pite [*F.*] and others that such resolution could not be brought forward without due notice was overruled by the President.

The resolution having been seconded by Mr. Herbert W. Wills [*A.*] and discussed, Mr. W. E. Riley [*F.*], official architect of the London County Council, addressed the Meeting, contending that there was nothing in the Instructions to warrant the assertion that he was to act as joint-architect of the building, and stating that it was not the intention of the County Council that he should occupy that position.

In further discussion, suggestions for the withdrawal of the motion were made, but, not being accepted, the motion was ultimately put from the Chair, and upon a show of hands declared defeated—29 voting for and 50 against it.

The proceedings then closed, and the Meeting separated at 10.30 p.m.

REPORT OF THE JOINT COMMITTEE ON REINFORCED CONCRETE.

Adopted at the General Meeting of the Royal Institute of British Architects, Monday, 27th May 1907.

MEMBERS OF THE COMMITTEE.

SIR HENRY TANNER, I.S.O. [*F.*], *Chairman*	*Representing the Royal Institute of British Architects*
T. WALMISLEY, M.Inst.C.E. [*H.A.*]	
WILLIAM DUNN [*F.*]	
MAX CLARKE [*F.*]	
H. D. SEARLES-WOOD [*F.*], *Hon. Sec.*	
THOMAS HENRY WATSON [*F.*]	*Representing the District Surveyors' Association*
E. DRU DRURY [*F.*]	
BENJAMIN I. GREENWOOD	*Representing the Institute of Builders*
FRANK MAY, J.P.	
A. E. COLLINS, M.Inst.C.E.	*Representing the Municipal and County Engineers' Association*
J. W. COCKRILL, M.Inst.C.E. [*A.*]	
COLONEL C. B. MAYNE, R.E., *Vice-Chairman*	*Representing the War Office*
MAJOR E. M. PAUL, R.E.	
C. H. COLSON, M.Inst.C.E.	*Representing the Admiralty*
PROFESSOR W. C. UNWIN, F.R.S. [*H.A.*], *Vice-Chairman*	
CHARLES F. MARSH, M.Inst.C.E., M.Am.Soc.C.E.	
COLONEL F. WINN, R.E.	

PREFATORY REMARKS BY SIR HENRY TANNER, I.S.O. [*F.*], CHAIRMAN.

THE Committee on Reinforced Concrete, over which I had the honour to preside, was formed on the recommendation of the Science Standing Committee of the Institute, which recommendation was adopted by the Council in October 1905.

In forming the Committee the Institute very wisely decided that other bodies to whom reinforced concrete was of interest should be invited to take part in the work, and thus ensure that the Report and Rules which might be prepared should be considered from all points of view. The Admiralty, War Office, Municipal and County Surveyors, District Surveyors, and the Institute of Builders were all represented, as well as the Royal Institute of British Architects.

The reference to the Committee was in the following terms: "To draw up Rules for the guidance of architects for the use of reinforced concrete." The result of the Committee's deliberations will be found in the Provisional Report which has been issued to members [see page 515], and which we hope you will adopt to-night.

There has not been hitherto in this country any authoritative pronouncement on the necessary rules to be observed in such construction. In many ways this has prevented the

employment of reinforced concrete, such employment being practically prohibited for complete buildings under the ordinary building rules and regulations; and it is only those bodies who are free from these restrictions, such as railway and dock companies, who have been able to avail themselves of so economical and space-saving a method of construction, and on these points I speak from experience. Other countries have been more lenient, and in consequence those countries are far in advance of this, both as to general knowledge of the material and skill in its use. However, we hope that, if the Meeting adopts the rules which have been prepared, this country may not for long occupy the backward position that it now does.

It was found desirable to form Sub-Committees for the consideration of special branches of the subject. These were three in number: (1) Fire Resistance, Mr. T. H. Watson, Chairman; (2) Materials, Col. Mayne, R.E., Chairman; and (3) Formulæ, Professor Unwin, Chairman.

These Committees had to consider an enormous mass of literature, including the regulations in force in other countries, and only those who have studied the subject are aware of the innumerable experiments, theories, writings, and reports of discussions which are available.

To begin with, Messrs. Cubitt kindly put at the disposal of the Committee seventeen beams, plain and reinforced, for testing to destruction, the direction of the tests being undertaken by Professor Unwin. These were the only tests made under the supervision of the Committee, it being found that the available records of all kinds of accurately tabulated tests by various public authorities, technical colleges, and other bodies had largely removed the material from the unknown, and that what was required was rather a reasoned theory based on the recorded experiments than on a further series of experiments of our own, the latter, indeed, being beyond the means at our command. There are, of course, various disputed points which must be settled by further experiment, such as the width of flange in T-beams; but to them the Report draws attention without laying down definite rules.

The aim of the Committee has been the production of a good working guide, the laying down of the necessary conditions and settling safe rules for a proper disposition of the parts. Hitherto every specialist in this country has made his own rules, perhaps more or less approximately accurate, but the margin of safety has been occasionally cut too fine. It should not be enough that a structure bears its working load without apparent distress, because a specially well-made floor may stand loads far beyond the average without breaking down; but we have to provide such a margin of safety as will cover ordinary inattention or ordinary defects of workmanship.

The difficulty has been to determine the merits of rival systems, each specialist naturally regarding his own system as the best; but the Report and Rules which are now before you will enable an accurate judgment to be arrived at by the architect himself, if he has the requisite knowledge, or with the aid of a consulting engineer if he prefers.

The Rules proposed are by no means revolutionary, and the same principles are being adopted abroad but with some variation of detail. They can be adopted as the basis upon which tenders may be obtained, and so ensure that these shall be prepared on equal terms; and it is hoped they will be of considerable service in placing building construction of this type upon a recognised footing, and serve to explode the idea that there is anything of an occult nature connected with the necessary calculations.

For some fifty years past, viz. from the date of Wilkinson's patent in 1854, the attention of many men has been directed to improving the theory and adding to the practice of building in concrete reinforced in various ways, and it cannot be said that the present state of knowledge is due to the efforts of any one man. Special skill is of course needed owing to the limited practice, but in the preparation of our Report a preference for any feature which is claimed as patent has been avoided; therefore special forms of bar or peculiar arrangements

are not referred to, and we have confined ourselves to the laying down of principles for all kinds of structures reinforced with ordinary bars.

The Report itself, although short, is the result of many lengthy discussions and investigations. It is not claimed to be final, but simply a reasonable guide in the present state of knowledge.

I do not propose to trouble you with any explanations of the Report, or of the means which led to the conclusions stated therein, because the Report has now been in your hands for some time; and in view of the interest which is at present being taken in the subject, explanations will no doubt be asked for, and members of our Sub-Committees will have the opportunity of replying to such queries.

Without further preface, therefore, I beg to formally move the adoption of the Report, and that copies, with explanatory letters, be sent to the Local Government Board and the London County Council.

REPORT OF THE COMMITTEE.

1. Reinforced concrete is used so much in building and engineering construction that a general agreement on the essential requirements of good work is desirable. The proposals which follow are intended to embody these essentials, and to apply generally to all systems of reinforcement.

Good workmanship and materials are essential in reinforced concrete. With these and good design structures of this kind appear to be trustworthy. It is essential that the workmen employed should be skilled in this class of construction. Very careful superintendence is required during the execution of the work in regard to—

(*a*) The quality, testing, and mixing of the materials.

(*b*) The sizes and positions of the reinforcements.

(*c*) The construction and removal of centering.

(*d*) The laying of the material in place and the thorough punning of the concrete to ensure solidity and freedom from voids.

If the metal skeleton be properly coated with cement, and the concrete be solid and free from voids, there is no reason to fear decay of the reinforcement in concrete of stone, gravel, cinder, coke-breeze, &c., made with clean fresh water.

2. The By-laws regulating building in this country require external walls to be in brick, or stone, or concrete of certain specified thicknesses. In some places it is in the power of the local authorities to permit a reduced thickness of concrete when it is strengthened by metal; in other districts no such power has been retained. We are of opinion that all By-laws should be so altered as to expressly include reinforced concrete amongst the recognised forms of construction.

A section should be added to the By-laws declaring that when it is desired to erect buildings in reinforced concrete complete drawings showing all details of construction and the sizes and positions of reinforcing bars, a specification of the materials to be used and proportions of the concrete, and the necessary calculations of strength based on the rules contained in this Report, signed by the person or persons responsible for the design and execution of the work, shall be lodged with the local authority.

3. Fire Resistance.—(*a*) Floors, walls, and other constructions in steel and concrete formed of incombustible materials prevent the spread of fire in varying degrees according to the composition of the concrete, the thickness of the parts, and the amount of cover given to the metal.

(*b*) Experiment and actual experience of fires show that concrete in which limestone is used for the aggregate is disintegrated, crumbles and loses coherence when subjected to very fierce fires, and that concretes of gravel or sandstones also suffer, but in a rather less degree.* The metal reinforcement in such cases generally retains the mass in position, but the strength of the part is so much diminished that it must be renewed. Concrete in which coke-breeze, cinders, or slag forms the aggregate is only superficially injured, does not lose its strength, and in general may be repaired. Concrete of broken brick suffers more than cinder concrete and less than gravel or stone concrete.

(*c*) The material to be used in any given case should be governed by the amount of fire resistance required as well as by the cheapness of, or the facility of procuring, the aggregate.

(*d*) Rigidly attached web members, loose stirrups, bent-up rods, or similar means of connecting the metal in the lower or tension sides of beams or floor slabs (which sides suffer most injury in case of fire) with the upper or compression sides of beams or slabs not usually injured are very desirable.

(*e*) For main beams a covering of 1½ inch to 2 inches of concrete over the metal reinforcement appears from experience in actual fires to afford ample protection to the structural parts. In floor slabs the cover required may be reduced to 1 inch. All angles should be rounded or splayed to prevent spalling off under heat.

(*f*) More perfect protection to the structure is required under very high temperature, and in the most severe conditions it is desirable to cover the concrete structure with fire-resisting plastering which may be easily renewed. Columns may be covered with coke-breeze concrete, terra-cotta, or other fire-resisting facing.

MATERIALS.

4. *Cement.*—Only Portland cement complying with the requirements of the specification adopted by the British Engineering Standards Committee should be employed; in general the slow-setting quality should be used. Every lot of cement delivered should be tested, and in addition the tests for soundness and time of setting, which can be made without expensive apparatus, should be applied frequently during construction. The cement should be delivered on the work in bags or barrels bearing the maker's name and the weight of the cement contained.

5. *Sand.*—The sand should be composed of hard grains of various sizes up to particles which will pass a quarter-inch square mesh, but of which at least 75 per cent. should pass ⅛-inch square mesh. Fine sand alone is not so suitable, but the finer the sand the greater is the quantity of cement required for equal strength of mortar. It should be clean and free from ligneous, organic, or earthy matter. The value of a sand cannot always be judged from its appearance, and tests of the mortar prepared with the cement and the sand proposed should always be made. Washing sand does not always improve it, as the finer particles which may be of value to the compactness and solidity of the mortar are carried away in the process.

6. *Aggregate.*—The aggregate, consisting of gravel, hard stone, or other suitable material, should be clean and angular, varied in size as much as possible between the limits of size allowed for the work. In all cases material which passes a sieve of a quarter-inch square

* The smaller the aggregate the less the injury.

mesh should be reckoned as sand. The maximum allowable size is usually $\frac{3}{4}$ inch. The maximum limit must always be such that the aggregate can pass between the reinforcing bars and between these and the centering. The sand should be separated from the gravel or broken stone by screening before the materials are measured.

7. *Proportions of the Concrete.*—In all cases the proportions of the cement, sand, and aggregate should be separately specified in volumes.

As the strength and durability of reinforced concrete structures depend mostly on the concrete being properly proportioned, it is desirable that in all important cases tests should be made as described herein with the actual materials that will be used in the work before the detailed designs for the work are prepared.

In no case should less dry cement be added to the cement when dry than will suffice to fill its interstices, but subject to that the proportions of the sand and cement should be settled with reference to the strength required, and the volume of mortar produced by the admixture of sand and cement in the proportions arranged should be ascertained.*

The interstices in the aggregate should be measured and at least sufficient mortar allowed to each volume of aggregate to fill the interstices and leave at least 10 per cent. surplus.

For ordinary work a proportion of one part cement to two parts sand will be found to give a strong, practically watertight mortar, but where special watertightness or strength is required the proportion of cement must be increased.

The amount of cement added to the aggregate should be determined on the work by weight. The weight of a cubic foot of cement for the purpose of proportioning the amount of cement to be added may be taken at 90 lbs.

8. *Metal.*—The metal used should be steel having the following qualities:—

(*a*) An ultimate strength of not less than 60,000 lbs. per square inch.

(*b*) An elastic limit of not less than 50 per cent., or more than 60 per cent. of the ultimate.

(*c*) An elongation of not less than 22 per cent. in the lengths stated below.

(*d*) It must stand bending cold 180° to a diameter of the thickness of pieces tested without fracture on outside of bent portion.

In the case of round bars the elongation should not be less than 22 per cent., measured on a gauge-length of eight diameters. In the case of bars over one inch in diameter the elongation may be measured on a gauge-length of four diameters, and should then be not less than 27 per cent. For other sectional material the tensile and elongation tests should be those prescribed in the British Standard Specification for Structural Steel.

Before use in the work the metal must be clean and free from scale or loose rust. It should not be oiled or painted, but a wash of thick Portland cement grout is desirable.

Welding should in general be forbidden; if it is found necessary, it should be at points where the metal is least stressed, and it should never be allowed without the special sanction of the architect or engineer responsible for the design.

The reinforcement ought to be placed and kept exactly in the positions marked on the drawings, and, apart from any consideration of fire resistance, ought not to be nearer the surface of the concrete at any point than 1 inch in beams and $\frac{1}{2}$ inch in floor slabs or other thin structures.

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* For convenience on small works the following figures may be taken as a guide, and are probably approximately correct for medium silicious sand:—

Parts Cement		Parts Sand		Parts Mortar
1	+	$\frac{1}{2}$	=	1·20
1	+	1	=	1·50
1	+	$1\frac{1}{2}$	=	1·90

Parts Cement		Parts Sand		Parts Mortar
1	+	2	=	2·35
1	+	$2\frac{1}{2}$	=	2·70
1	+	3	=	3·00

9. *Mixing : General.*—In all cases the concrete should be mixed in small batches and in accurate proportions, and should be laid as rapidly as possible.

Hand-mixing.—When the materials are mixed by hand they are to be turned over and thoroughly mixed on a clean platform until the colour of the cement is uniformly distributed over the aggregate.

Machine-mixing.—Whenever practicable the concrete should be mixed by machinery.

10. *Laying.*—The thickness of loose concrete that is to be punned should not exceed three inches before punning, especially in the vicinity of the reinforcing metal. Special care is to be taken to ensure perfect contact between the concrete and the reinforcement, and the punning to be continued till the concrete is thoroughly consolidated. Each section of concreting should be as far as possible completed in one operation; when this is impracticable, and work has to be recommenced on a recently laid surface, it is necessary to wet the surface; and where it has hardened it must be hacked off, swept clean, and covered with cement grout. Work should not be carried on when the temperature is below 34° Fahr. The concrete when laid should be protected from the action of frost, and shielded against too rapid drying from exposure to the sun's rays or winds, and kept well wetted. All shaking and jarring must be avoided. The efficiency of the structure depends chiefly on the care with which the laying is done.

Water.—The amount of water to be added depends on the temperature at the time of mixing, the materials, and the state of these, and other factors, and no recommendation has therefore been made. Sea-water should not be used.

11. *Centering or Casing.*—The centering must be of such dimensions, and so constructed, as to remain rigid and unyielding during the laying and punning of the concrete. It must be so arranged as to permit of easing and removal without jarring the concrete. Provision should be made wherever practicable for splaying or rounding the angles of the concrete. Timber when used for centering may be advantageously limewashed before the concrete is deposited.

12. *Striking of Centres.*—The time during which the centres should remain up depends on various circumstances, such as the dimensions or thickness of the parts of the work, the amount of water used in mixing, the state of the weather during laying and setting, &c., and must be left to the judgment of the person responsible for the work. The casing for columns, for the sides of beams, and for the soffits of floor slabs not more than 4 feet span must not be removed under eight days; soffits of beams and of floors of greater span should remain up for at least fourteen days, and for large span arches for at least twenty-eight days. The centering of floors in buildings which are not loaded for some time after the removal of same may be removed in a short time; the centering for structures which are to be used as soon as completed must remain in place much longer. If frost occurs during setting, the time should be increased by the duration of the frost.

13. *Testing.*—Before the detailed designs for an important work are prepared, and during the execution of such a work, test pieces of concrete should be made from the cement, sand, and aggregate to be used in the work, mixed in the proportions specified. These pieces should be either cubes of not less than four inches each way, or cylinders not less than four inches diameter, and of a length not less than the diameter. They should be prepared in moulds, and punned as described for the work. Not less than four cubes or cylinders should be used for each test, which should be made twenty-eight days after moulding. The pieces should be tested by compression, the load being slowly and uniformly applied. The average of the results should be taken as the strength of the concrete for the purposes of calculation, and in the case of concrete made in proportions of 1 cement, 2 sand, 4 hard stone the strength should not be less than 2,400 lbs. per square inch.

Loading tests on the structure itself should not be made until at least two months have elapsed since the laying of the concrete. The test load should not exceed one and a half times the accidental load. Consideration must also be given to the action of the adjoining parts of the structure in cases of partial loading. In no case should any test load be allowed which would cause the stress in any part of the reinforcement to exceed two-thirds of that at which the steel reaches its elastic limit.

METHODS OF CALCULATION.

Data.

1. *Loads.*—In designing any structure there must be taken into account :—

(*a*) The weight of the structure.

(*b*) Any other permanent load, such as flooring, plaster, &c.

(*c*) The accidental load.*

(*d*) In some cases also an allowance for vibration and shock.

Of all probable distributions of the load, that is to be assumed in calculation which will cause the greatest straining action.

(i.) The weight of the concrete and steel structure may be taken at 150 lbs. per cubic foot.

(ii.) In structures subjected to very varying loads and more or less vibration and shock, as, for instance, the floors of public halls, factories, or workshops, the allowance for shock may be taken equal to half the accidental load. In structures subjected to considerable vibration and shock, such as floors carrying machinery, the roofs of vaults under passage ways and courtyards, the allowance for shock may be taken equal to the accidental load.

(iii.) In the case of columns or piers in buildings, which support three or more floors, the load at different levels may be estimated in this way. For the part of the roof or top floor supported, the full accidental load assumed for the floor and roof is to be taken. For the next floor below the top floor 10 per cent. less than the accidental load assumed for that floor. For the next floor 20 per cent. less, and so on to the floor at which the reduction amounts to 50 per cent. of the assumed load on the floor. For all lower floors the accidental load on the columns may be taken at 50 per cent. of the loads assumed in calculating those floors.

Beams.

2. *Spans.*—These may be taken as follows :—For beams the distance from centre to centre of bearings. For slabs supported at the ends, the clear span + the thickness of slab. For slabs continuous over more than one span the distance from centre to centre of beams.

3. *Bending moments.*—In the most ordinary case of a uniformly distributed load of w lbs. per inch run of span the bending moments will be as follows :—

(*a*) *Beam or slab simply supported at the ends.* Greatest bending moment at centre of span of l inches is equal to $w\ l^2/8$ inch lbs.

(*b*) *Beam continuous over several spans, or encastré or fixed in direction at each end.* The greatest bending moments are at the ends of the span, and the beam should be reinforced at its upper side near the ends. If continuity can be perfectly relied on, the bending moment at the centre of the span is $w\ l^2/24$, and that over the supports $-w\ l^2/12$. If the continuity is in any way imperfect, the bending moment at the centre will in general be greater, and that

* By "accidental" load is meant the imposed load additional to the weight of the structure for which the structure is calculated.

at the supports less, but the case is a very indefinite one. It appears desirable that generally in building construction the centre bending moment should not be taken less than $w\,l^2/12$. The bending moment at the ends depends greatly on the fixedness of the ends in level and direction. When continuity and fixing of the ends, whether perfect or imperfect, is allowed for in determining the bending moment near the middle of the span, the beam or slab must be designed and reinforced to resist the corresponding bending moments at the ends. When the load is not uniformly distributed the bending moments must be calculated on the ordinary statical principles.

4. *Stresses.*—The internal stresses are determined, as in the case of a homogeneous beam, on these approximate assumptions :—

(*a*) The coefficient of elasticity in compression of stone or gravel concrete, not weaker than 1 : 2 : 4, is treated as constant and taken at one-fifteenth of the coefficient of elasticity of steel.

$$\begin{aligned} &\text{Coefficient for concrete} = E_c = 2{,}000{,}000 \quad \text{lbs. per sq. in.} \\ &\quad ,, \quad ,, \text{ steel} = E_s = 30{,}000{,}000 \\ &\frac{E_s}{E_c} = 15. \end{aligned}$$

It follows that at any given distance from the neutral axis, the stress per square inch on steel will be fifteen times as great as on concrete.

(*b*) The resistance of concrete to tension is neglected, and the steel reinforcement is assumed to carry all the tension.

(*c*) The stress on the steel reinforcement is taken as uniform on a cross-section, and that on the concrete as uniformly varying.

5. *Working stresses.*—If the concrete is of such a quality that its crushing strength is 2,400 to 3,000 lbs. per square inch after twenty-eight days, and the steel has a tenacity of not less than 60,000 lbs. per square inch, the following stresses may be allowed :—

	lbs. per sq. in.
Concrete, in compression in beams subjected to bending . .	600
Concrete in columns under simple compression	500
Concrete in shear in beams	60
Adhesion * of concrete to metal	100
Steel in tension	15,000 to 17,000

When the proportions of the concrete differ from those stated above the stress in compression allowed in beams may be taken at one-fourth, and that in columns at one-fifth of the crushing stress of cubes of the concrete of sufficient size at twenty-eight days after gauging. If stronger steel is used than that stated above, the allowable tensile stress may be taken at one-half the stress at the yield point of the steel.

Approximate Calculations.

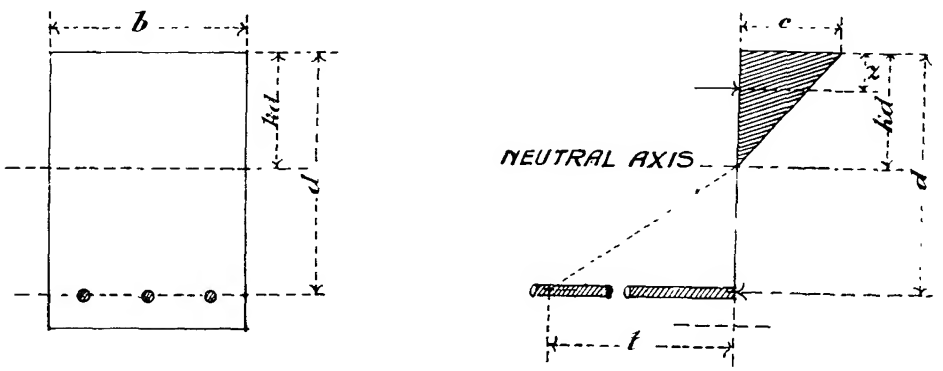
Let b be the width and d the effective depth of the beam in inches.

$A = bd$ the area of cross-section.

$m = E_s / E_c$ the ratio of the coefficients of elasticity of steel and concrete.

* It is desirable that the reinforcing rods should be so designed that the adhesion is sufficient to resist the shear between the metal and concrete. Precautions should in every case be taken by splitting or bending the rod ends, or otherwise to provide additional security against the sliding of the rods in the concrete.

M = bending moment at the section considered, in inch-pound units.
t = tensile stress in metal in lbs. per square inch.
c = compressive stress in concrete per square inch.
z = distance of resultant thrust in concrete from compressed edge of beam in inches.
kd = distance of neutral axis from compressed edge in inches.
$A_c = kbd$ = area of concrete in compression in square inches.
A_t = area of metal in tension in square inches.
$p = A_t / bd$ the ratio of section of metal to section of concrete.
l = span in inches.
w = load per inch run of span.



(*a*) *Beams of Rectangular Section with Single Reinforcement.*

In a homogeneous beam the stresses are proportional to the distances from the neutral axis. In a discrete beam, such as a beam of concrete and steel, on account of the greater rigidity of steel, at a given distance from the neutral axis the stress in the steel will be m times as great as in concrete. Hence—

$$\frac{mc}{t} = \frac{kd}{d(1-k)} = \frac{k}{1-k}.$$

But equating the total tension and compression

$$\tfrac{1}{2}\, cbkd = pbdt$$
$$ck = 2\,pt.$$

Replacing c in terms of t

$$\frac{k^2}{m(1-k)} = 2p$$
$$k = \sqrt{(p^2m^2 + 2pm)} - pm.$$

Thus for

$m=$	$p=$	$k=$
15	·007	·365
15	·010	·417
15	·015	·483
15	·020	·530

That is, the neutral axis is lower as the amount of reinforcement is greater, and passes the half depth for 2 per cent. of reinforcement.

The distance of the resultant thrust from the compressed edge is $z = \frac{1}{3}kd$.

Equating the moments of resistance to the bending moment,

$$M = A_t t\,(d - \tfrac{1}{3}kd) = \tfrac{1}{2}A_c c\,(d - \tfrac{1}{3}kd)$$

$$t = \frac{M}{A_t d\,(1 - \frac{1}{3}k)} = \frac{M}{pbd^2\,(1 - \frac{1}{3}k)}$$

$$c = \frac{2M}{A_t d\,(1 - \frac{1}{3}k)} = \frac{2M}{kbd^2\,(1 - \frac{1}{3}k)}.$$

The shearing stresses and tensions near the ends of the beam are usually resisted by stirrups or inclined steel bars, and it is always desirable to bend upwards near the supports one or more of the reinforcing bars when the reduced bending moments at the ends permit of so doing. Stirrups or rigidly attached web members or inclined bars should be provided in all cases where the average shearing stress on a vertical section of the beam exceeds 60 lbs. per square inch of the section. A theoretical determination of the section required for these would be very difficult. If the simple case is taken of a uniformly loaded beam, supported at the ends with horizontal steel tension bars not bent up at the ends, the adhesion between concrete and steel which is required may be found thus: The difference of tension in 1-foot length of bars at the end of the span will be the tangential force between steel and concrete in that distance. The bending moment at the end is 0, and at 1 foot from the end $6w\,(l-12)$ inch pounds, where w is the load per inch run. Hence the increment of tension between the end and 1 foot from the end is

$$\frac{6w\,(l-12)}{d\,(1 - \frac{1}{3}k)} \text{ lbs.}$$

If ψ is the total perimeter of the reinforcing bars, the adhesion stress is

$$\frac{w\,(l-12)}{2\psi d\,(1 - \frac{1}{3}k)} \text{ lbs. per sq. in.}$$

(b) *Beams of* T *Section with Single Reinforcement.*

In designing T beams where the upper flange forms a floor, the thickness d_1 of this will first be ascertained by considering the part between two ribs as a slab, having its own reinforcing bars transverse to the rib. The whole of this cannot in general be considered to form part of the upper flanges of the T beams. The width b_1 of the upper flange may be assumed to be not greater than one-third the span of the beams, or than three-fourths of the distance from centre to centre of the reinforced ribs.* The depth d should then be determined with reference to the stiffness required in the floor. In general d is from $\frac{1}{12}$ to $\frac{1}{18}$ of the span.

Two cases arise according as the thickness of flange is greater or less than kd, the distance from the neutral axis to the compressed edge. In the former case ($d_1 > kd$) the rules under (a) apply if b_1 is substituted for b, and $A = b_1 d_1 + b\,(d - d_1)$ for bd. The equations then become

$$\frac{mc}{t} = \frac{k}{1-k}$$

$$k = \sqrt{\left(\frac{2pAm}{b_1 d} + \frac{p^2A^2m^2}{b_1^2 d^2}\right)} - \frac{pAm}{b_1 d}$$

$$= \sqrt{\left(\frac{2A_t m}{b_1 d} + \frac{A_t^2 m^2}{b_1^2 d^2}\right)} - \frac{A_t m}{b_1 d}$$

* There is no satisfactory theoretical determination of the precise amount of the floor slab acting with the web.

$$z=\tfrac{1}{3}kd$$

$$t=\frac{M}{A_t d(1-\frac{1}{3}k)}=\frac{M}{pAd(1-\frac{1}{3}k)}$$

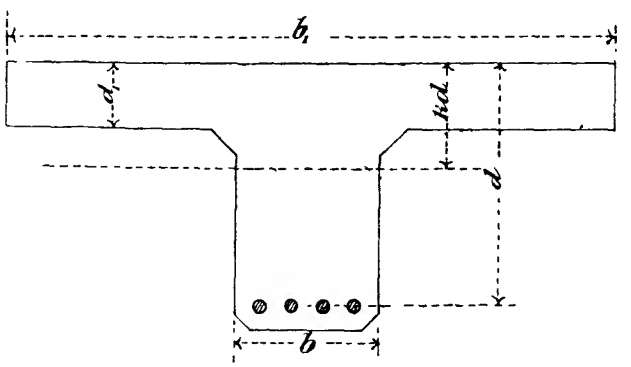
$$c=\frac{2M}{A_t d(1-\frac{1}{3}k)}=\frac{2M}{kb_1 d(1-\frac{1}{3}k)}$$

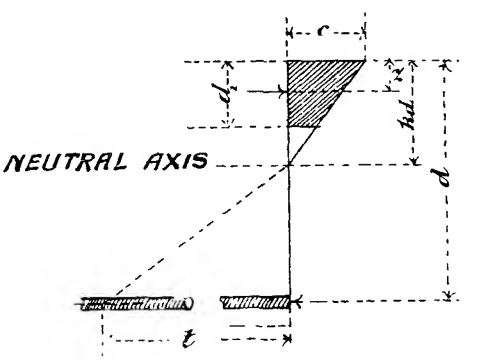
where $pA=A_t$ the section of reinforcement. The increment of tension in one foot length at the end of the beam and the adhesion stress is the same as in (*a*).

When d_1 is less than kd the small compression in the web between d_1 and kd may be neglected.

Let, as before, the whole area of section $=A=b_1d_1+b(d-d_1)$, and pA be the area of reinforcement.

$$\frac{mc}{t}=\frac{k}{1-k}.$$





The mean compressive stress on the flange is

$$\tfrac{1}{2}\left\{c+c\frac{kd-d_1}{kd}\right\}=\frac{c}{2}\,\frac{2kd-d_1}{kd}.$$

Equating the total tension and compression,

$$A_t t=pAt=\tfrac{1}{2}b_1d_1c\,\frac{2kd-d_1}{kd}$$

$$kd=\frac{b_1d_1^2+2pAmd}{2b_1d_1+2pAm}=\frac{b_1d_1^2+2A_tmd}{2b_1d_1+2A_tm}.$$

$$\text{But } z=\frac{d_1}{3}\cdot\frac{3kd-2d_1}{2kd-d_1}.$$

Equating the moments

$$M=A_t t(d-z)=pAt(d-z)=\tfrac{1}{2}b_1d_1c\,\frac{2kd-d_1}{kd}(d-z)$$

$$t=\frac{M}{pA(d-z)}$$

$$c=\frac{2Mkd}{b_1d_1\,(2kd-d_1)\,(d-z)}.$$

It may be useful also to point out that the area of reinforcement for a given value of c/t is

$$A = pA = \frac{c}{t} \cdot \frac{b_1 d_1 (2kd - d_1)}{2kd}.$$

(c) *Slabs supported or fixed on more than two sides.*

It does not appear that there is either a satisfactory theory or trustworthy experiments from which the strength of rectangular slabs supported or fixed on all four edges can be determined. [*See Appendices for a statement of some rules which have been used in determining the strength of slabs.*]

COLUMNS OR PIECES SUBJECTED TO THRUST.

The reinforcement of columns should in general amount to at least 0·8 per cent. of the gross cross-section. The liability to bending of the longitudinal reinforcing bars greatly weakens the column, and should be prevented by steel binding bars. Some theoretical considerations would indicate that cross-binding is required at points not further apart than twenty-four times the least lateral dimension of the reinforcing rods. But experiment shows that still closer cross-binding, or, better, spiral binding,* greatly increases the strength of the column.

(a) *Short Columns axially loaded.*

If the load is strictly axial the stress is uniform on cross-sections. Let A_c be the cross-section of the column (including the reinforcement), and A the equivalent section as defined below, a the section of longitudinal reinforcing bars, P the load on the column in lbs. Let c be the stress on the concrete, and t that on the steel, the ratio of the coefficients of elasticity being m.

$$c = \frac{P}{A_c + (m-1)a} = \frac{P}{A}$$

$$t = \frac{mP}{A_c + (m-1)a} = \frac{mP}{A}.$$

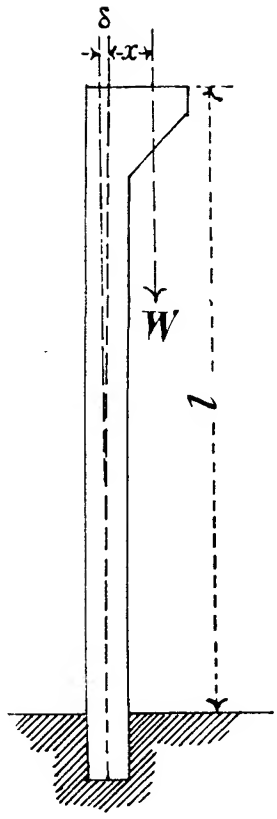
It appears that c may be taken $=500$ lbs. per square inch, $t=7{,}500$ lbs. per sq. in., and $E_s/E_c = m = 15$.

When the stress on the concrete is not greater than 500 lbs. per square inch, lateral bending of the column as a whole is not to be feared if the ratio of length to the least lateral dimension is not greater than 18.

(b) *Columns eccentrically loaded.*

If a column initially straight is loaded eccentrically, as when a beam rests on a bracket attached to the column, it may be regarded as fixed at the base and free at the loaded end. Then it must bend in the plane passing through the load, the deflection at the top being δ. Let x be the eccentricity of the load measured from the centre of the column when straight. Then the bending moment at the base of the column is $W(\delta + x)$. But it is known that δ will be small compared with x, provided that W is small compared with $2EI/l^2$, and this will be the case in such conditions as are likely to occur in designing concrete columns. Then the

* M. Considère recommends that the distance between the coils of the spiral should not exceed from $\frac{1}{10}$ to $\frac{1}{7}$ of the diameter of the spiral. In the case of piles subjected to longitudinal shock in driving there are special reasons for decreasing the distance between the cross-binding near the ends.



bending moment may be taken as Wx, and the stress at the base of the column, treating it as homogeneous, will be

$$f = W\left(\frac{1}{A} \pm \frac{x}{Z}\right)$$

very nearly, where A is the whole section of the column and Z the modulus of the section relatively to an axis through the centre of gravity and at right angles to the plane of bending.

In dealing with reinforced columns which are not homogeneous, it is convenient to substitute for the actual section of the column what may be termed the equivalent section, or section of concrete equivalent in resistance to the actual column. If A_c is the area of section of the column (including the area of reinforcement), and a is the area of reinforcement, then the equivalent section is

$$A = A_c + (m - 1)a$$

If h is the depth of the section in the plane of bending, the moment of inertia relatively to the neutral axis can be expressed in the form $I = nAh^2$, and the section modulus in the form $Z = 2nAh$. (*See Appendix III.*)

It is desirable in columns that there should be no tension, and generally when the vertical load is considerable there is none. Cases in which the eccentricity is so great that there is tension must be treated by the methods applicable to beams if it is made a condition that the steel carries all the tension. In the following cases it is assumed that there is no tension.

Case I.—Column of Circular Section, Reinforcements Symmetrical and Equidistant from the Neutral Axis. Let m be the ratio E_s/E_c of the coefficients of elasticity of steel and concrete, A_c the cross-section of the column in square inches, a the area of reinforcement in square inches, h the diameter of the column, h_t the distance between the reinforcing bars perpendicular to the neutral axis. Then the equivalent section is

$$A = A_c + (m-1)a$$

and the modulus of the section is (*Appendix III.*)

$$Z = \tfrac{1}{8}A_c h + \tfrac{1}{2}(m-1)a\,\frac{h_t^2}{h}.$$

The stress at the edges of the section can then be calculated by the general equation

$$f = W\left(\frac{1}{A} \pm \frac{x}{Z}\right)$$

where x is the eccentricity of the load in inches and W the load in pounds. The greater value of f must not exceed the safe stress stated above.

Case II.—Rectangular Section with Reinforcement Symmetrical and Equidistant from the Neutral Axis. Using the same notation as in the last case, h being now the depth of the section in the plane of bending, the section modulus is (*Appendix III.*)

$$Z = \tfrac{1}{6}A_c h + \tfrac{1}{2}(m-1)a\,\frac{h_t^2}{h},$$

and the stresses are given by the same equation as in the previous case.

Case III.—Column of Circular Section with Reinforcing Bars arranged in a Circle.—Using the same notation as in Case I., h_t being the diameter of the circle of reinforcing bars, the section modulus is (*Appendix III.*)

$$Z = \tfrac{1}{8}A\,h + \tfrac{1}{4}(m-1)a\,\frac{h_t^2}{h},$$

and the stresses are given by the same equation as in Case I.

(c) *Long Columns axially loaded.*

For columns more than 18 diameters in length there is risk of lateral buckling of the column as a whole. The strength of such columns would be best calculated by Gordon's formula, but there are no experiments on long columns by which to test the values of the constants for a concrete or concrete and steel column. There does not seem, however, to be any probability of serious error if the total load is reduced in a proportion inferred from Gordon's formula to allow for the risk of buckling.

Let, as before, A_c = the section of the column in inches; a = the area of reinforcement. Then $A = A_c + (m-1)a$ is the equivalent section. Let n be the constant in the equation, $I = nAh^2$ (*Appendix III.*), and h the least transverse dimension of the column.

Then for a column fixed in direction at both ends, Gordon's formula is

$$\frac{W}{Af} = \frac{1}{1 + \dfrac{l^2}{cnh^2}} = \frac{1}{1+K}$$

so that the column will carry less than a short column of the same dimensions in the ratio of $1 + K$ to 1, or, in other words, the column will be safe if calculated as a short column, not for the actual load W, but for a load $(1 + K)$ W.

The constant c has not been determined experimentally for reinforced long columns. But its probable value is

$$c = \frac{4\pi^2 E_c}{f}$$

where f is the ultimate crushing stress. Putting E_c = 2,000,000 and f = 2,500, then c = 32,000. Looking at the well-understood uncertainty of the rules for long columns, very exact calculation is useless. Some values of n for ordinary types of column are given in Appendix III. Taking these values, the following are the values of $1 + K$:—

VALUES OF 1 + K.

$\frac{l}{h}$	*Case I.* $n = 0{\cdot}098$	*Case II.* $n = 0{\cdot}075$	*Case III.* $n = 0{\cdot}0646$
20	1·13	1·17	1·19
25	1·20	1·26	1·30
30	1·29	1·38	1·44

The differences of $1 + K$ for considerable differences of n are not very great. In any case n can be found by the method in the Appendix with little trouble.

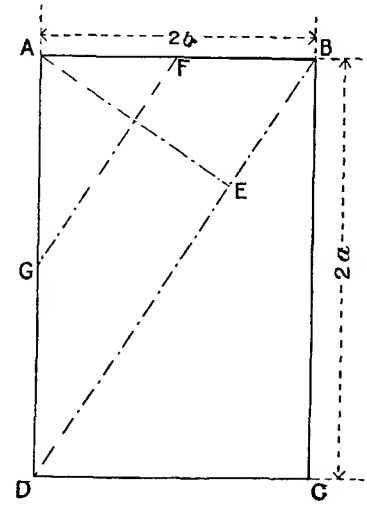
In the case of columns fixed at one end and rounded or unfixed at the other, 2 K must be substituted for K. If the column is rounded at both ends, 4 K must be substituted for K.

Appendix I.—BACH'S THEORY OF THE RESISTANCE OF FLAT SLABS SUPPORTED ON ALL EDGES AND UNIFORMLY LOADED.

By W. C. Unwin.

The experiments of Professor Bach show that a flat square slab supported all round fractures along a diagonal, and the greatest stress is therefore on the diagonal section. It is the same apparently with rectangular slabs, though the evidence is not quite so clear. But if a diagonal fracture is assumed a very simple theory gives the stress.

Let the figure represent a rectangular slab with sides $2a$ and $2b$ in inches. Let the diagonal B D $= d$; the thickness of the slab $= h$; the perpendicular on the diagonal A E $= c$; draw F G bisecting the sides and let p be the load per sq. inch. Consider the left-hand half of the rectangle. The total load on it is $2pab$ acting at the centre of gravity of A B D or at $c/3$ from the diagonal. Whatever the distribution of the reactions of the supports, from symmetry, the reaction on A B must act at the centre F of A B and the reaction on A D must act at the centre G of A D. Hence the resultant of the reactions on A B, A D $=2pab$ must act at some point on the line F G or at a distance $c/2$ from the diagonal. Hence the bending moment on the diagonal section is



$$M=2pab\left(\frac{c}{2}-\frac{c}{3}\right)=\frac{pabc}{3},$$

the stress at the diagonal section is

$$f=\frac{6M}{dh^2}=2p\,\frac{abc}{dh^2}.$$

But $cd=4ab$,

$$d^2=4a^2+4b^2,$$

$$f=2p\frac{a^2}{a^2+b^2}\,\frac{b^2}{h^2}.$$

The following form of the equation is convenient:

$$f=\frac{1}{2}\,\frac{\left(\frac{a}{b}\right)^2}{\left\{1+\left(\frac{a}{b}\right)^2\right\}}\,\frac{W}{h^2}.$$

Where W is the total load on the slab:

$\frac{a}{b}=$	$f=$
1	$0{\cdot}25\,\frac{W}{h^2}$
1·5	$0{\cdot}23\,\frac{W}{h^2}$
2	$0{\cdot}20\,\frac{W}{h^2}$.

It would seem that if Bach's formula is to be used in calculating slabs, the reinforcing rods should be perpendicular to the diagonals of the rectangle.

Appendix II.—COMPARISON OF THE RESULTS GIVEN BY VARIOUS RULES FOR THE STRENGTH OF FLAT RECTANGULAR SLABS SUPPORTED ON ALL EDGES AND UNIFORMLY LOADED.

By William Dunn.

The theories of Professor Grashof and of Professor Rankine assume that the maximum bending stress on the slab is at the centre, where there are two principal stresses on planes normal to each other, these planes coinciding with the major and minor axes of the slab.

The stress on the plane formed by the major axis of the slab (which is the greater of the two principal stresses) may be found in a simple manner as follows:

Let the length of the slab $= a$, and the breadth $= b$ (where a is equal to or greater than b).

Calculate the bending moment on the slab (disregarding the end supports) as a beam supported or fixed at the sides only, of a span b under the total load on the slab. Multiply this bending moment by the factor s in the following table, to allow for the effect of the end supports. The result is the actual bending moment on the long axis of the slab.

When $\frac{a}{b}=$	Grashof's and Rankine's Rule		French Government Rule	
	$s=\frac{a^4}{a^4+b^4}$	$r=\frac{b^4}{a^4+b^4}$	$s=\frac{1}{1+2\frac{b^4}{a^4}}$	$r=\frac{1}{1+2\frac{a^4}{b^4}}$
1·0	0·50	0·50	0·33	0·33
1·5	0·83	0·16	0·71	0·09
2·0	0·94	0·05	0·89	0·03

The stress on the section formed by the long axis of the slab is found in the usual way by equating this actual bending moment to the moment of resistance of that section.

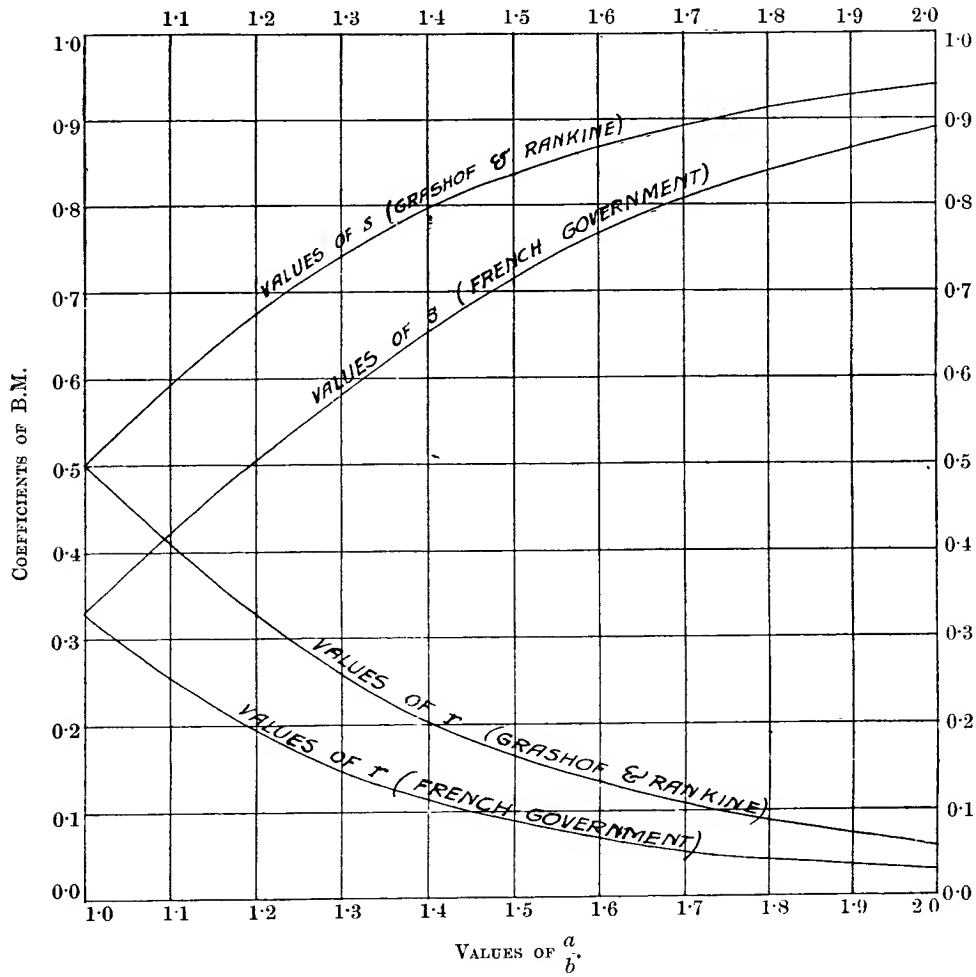
Similarly the stress on the plane formed by the minor axis of the slab is found by assuming the slab supported or fixed at the ends (disregarding the effect of the side supports), calculating the bending moment as if the slab were a beam of span a under the total load on the slab. Reduce the bending moment so found by the factor r in the table above, and the result is the actual bending moment on the short axis of the slab.

The stress on the section formed by that axis is found as before by equating this moment to the moment of resistance of that section.

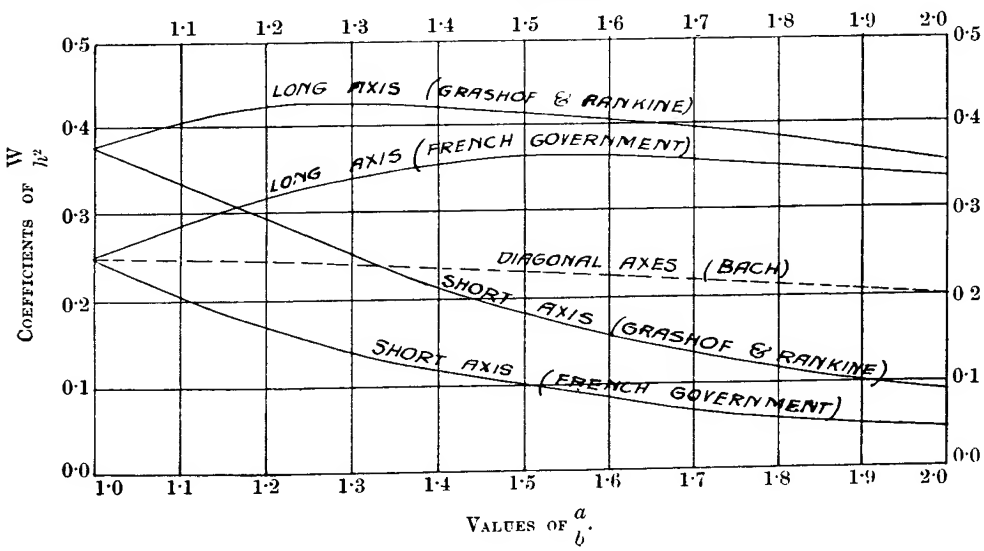
The reasoning by which we find the factors s and r is not entirely satisfactory, and other writers give other values. In the Instructions issued by the French Government to the Ingénieurs des Ponts et Chaussées with the Report of the Ministerial Commission du Ciment Armé the factors adopted give a greater importance to the effects of the third and fourth supports. The values of s and r, according to that report, are also given in the table above.

The maximum stresses on the sections as found by the foregoing rules when the slab is supported but not fixed all round are given in the table below, W being the total load uniformly distributed over the slab, h its thickness, and f the maximum stress due to bending.

BENDING MOMENTS (Supported or Fixed).



STRESSES (Supported only).



When $\frac{a}{b}=$	Values of f according to Grashof and Rankine		Values of f according to French Government Rule	
	On Long Axis	On Short Axis	On Long Axis	On Short Axis
1·0	$0{\cdot}375\,\frac{W}{h^2}$	$0{\cdot}375\,\frac{W}{h^2}$	$0{\cdot}250\,\frac{W}{h^2}$	$0{\cdot}250\,\frac{W}{h^2}$
1·5	$0{\cdot}416\,\frac{W}{h^2}$	$0{\cdot}183\,\frac{W}{h^2}$	$0{\cdot}361\,\frac{W}{h^2}$	$0{\cdot}101\,\frac{W}{h^2}$
2·0	$0{\cdot}352\,\frac{W}{h^2}$	$0{\cdot}088\,\frac{W}{h^2}$	$0{\cdot}333\,\frac{W}{h^2}$	$0{\cdot}045\,\frac{W}{h^2}$

These results may be more readily compared by the diagram given above [p. 529].

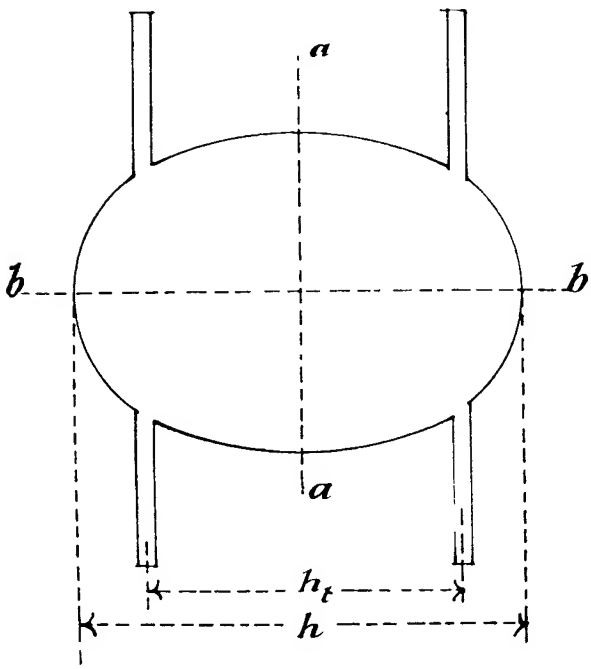
It is implicitly assumed in the foregoing that the strength to resist bending is the same in both directions, so that the reinforcements longitudinal and transverse should be of equal area and at the same depth from the compressed face: they should be placed parallel to the ends and sides.

The stresses found by Bach's formula are also plotted on the diagram.

Appendix III.—THE MOMENT OF INERTIA OF SECTIONS OF REINFORCED CONCRETE.

By W. C. Unwin.

If m is the ratio E_s/E_c of the coefficients of elasticity of steel and concrete, then an area A_t of steel is equivalent in resistance to mA_t of concrete. If A_c is the area of a section (including the area of reinforcing bars), and a the area of the reinforcing bars, then the section is equivalent to a section of area $A=A_c+(m-1)a$ of concrete only. This will be called the equivalent section.



The moment of inertia of a section about its neutral axis can always be put in the form

$$I=nAh^2,$$

where h is the depth at right angles to the neutral axis and n is a constant depending on the form of the section. Thus for a rectangular section $I=\frac{1}{12}Ah^2$, and for a circular section $I=\frac{1}{16}Ah^2$.

In dealing with reinforced sections, it is convenient in many cases to express the moment of inertia in terms of the equivalent area. The equivalent area is found by adding to the actual area of the section portions of a total area $(m-1)a$ at the same distance from the neutral axis as the reinforcing bars.

The figure shows a section for which b b

is the plane of bending, and $a\ a$ the neutral axis passing through the centre of gravity of the section. The reinforcing bars are supposed symmetrical to the neutral axis. The projecting parts of total area $(m-1)a$ are the concrete areas equivalent to the steel. If I_c is the moment of inertia of the section without reinforcing bars, the moment of inertia with reinforcing bars is

$$I = I_c + \tfrac{1}{4}(m-1)ah_t^2.$$

Thus for a rectangular section

$$I = \tfrac{1}{12}A_c h^2 + \tfrac{1}{4}(m-1)ah_t^2,$$

and the modulus of the section is

$$Z = \tfrac{1}{6}A_c h + \tfrac{1}{2}(m-1)a\frac{h_t^2}{h}.$$

For a circular section

$$I = \tfrac{1}{16}A_c h^2 + \tfrac{1}{4}(m-1)ah_t^2,$$

and the section modulus is

$$Z = \tfrac{1}{8}A_c h + \tfrac{1}{2}(m-1)a\frac{h_t^2}{h}.$$

Example 1.—Rectangular Section.

Let $m=15$, $a=0{\cdot}01A_c$, and $h_t=0{\cdot}9h$. The equivalent area is $A=A_c+(m-1)a=A_c+14a$ $=1{\cdot}14A_c$.

$$I = \tfrac{1}{12}A_c h^2 + \frac{14\times 0{\cdot}81}{4\times 100}A_c h^2$$

$$= 0{\cdot}1117A_c h^2.$$

But $A_c = 0{\cdot}877A$

$$I = 0{\cdot}098Ah^2$$

$$Z = 0{\cdot}196Ah.$$

In this case in the general expression $I=nAh^2$, $n=0{\cdot}098$ when A is the equivalent section.

Example 2.—Circular Section.

Let $m=15$, $a=0{\cdot}01A_c$, and $h_t=0{\cdot}8h$. The area of the equivalent section is $1{\cdot}14A_c$, as before.

$$I = \tfrac{1}{16}A_c h^2 + \tfrac{1}{4}\times 14\times {\cdot}01A_c\times {\cdot}64h^2 = 0{\cdot}0849A_c h^2.$$

But $A_c = 0{\cdot}877A$.

$$I = 0{\cdot}0745Ah^2.$$

$$Z = 0{\cdot}149Ah.$$

Example 3.—Circular Section with Reinforcing Bars arranged in a Circle.

The reinforcing bars are nearly equivalent to a ring of steel of the same total area. Let $m=15$, $a=0{\cdot}01A_c$, and let the diameter of the circle of reinforcing bars be $h_t=0{\cdot}8h$. The equivalent section is $A=1{\cdot}14A_c$, as before.

$$I = \tfrac{1}{16}A_c h^2 + \frac{m-1}{8}ah_t^2$$

$$= 0{\cdot}0625A_c h^2 + 1{\cdot}75\times {\cdot}01A\times {\cdot}64h^2$$

$$= 0{\cdot}0737A_c h^2$$

$$= 0{\cdot}0646Ah^2$$

$$Z = 0{\cdot}1292Ah.$$

It will be seen that if the value of n in the equation $I = nAh^2$ for simple circular and rectangular sections, and the reinforced sections are compared, the results are as follows:—

	Simple Sections	Reinforced Sections
Case I.	$\frac{1}{12} = 0{\cdot}0833$	0·098
Case II.	$\frac{1}{16} = 0{\cdot}0625$	0·0745
Case III.	$\frac{1}{16} = 0{\cdot}0625$	0·0646

The differences are not very great, so that while the value of n can always be found exactly when necessary for any proportion of reinforcement, there are cases such as that of columns where the value of n does not much affect the result, and where, from the nature of the calculation, great accuracy is impossible—for which a value of n can be assumed without any practically important error.

Appendix IV.—VALUE OF E_s/E_c.

By William Dunn.

In the foregoing recommendations, as in the Prussian Government and various other foreign rules, the value of E_s/E_c for concrete of the kind usually employed, of hard stone or gravel mixed 1 : 2 : 4, is put at 15.

In reality, it varies with the age of the concrete, the proportions and nature of the materials, the stress at which it is taken, &c. As determined from tests of full-sized columns of concrete, with longitudinal reinforcement only and without transverse binding, it varied from a maximum of 10 at working loads to 15 to 21 at ultimate loads. For cinder concrete of 1 : 2 : 4 or 1 : 3 : 6 it varied from about 12 at working loads to 26 to 48 at ultimate loads.

This factor E_s/E_c is employed to determine the position of the neutral axis in beams, and it is found that while a variation between 10 and 15 makes no very great difference in the result, a value of 15 fixes the position of that axis nearest to the position found by experiment in singly reinforced beams. In fact, the formula given herein for the position of the neutral axis with $E_s/E_c = 15$ gives a result which agrees well with observed values in beam tests.

As mentioned above, it does not agree so well with the tests on columns: it gives too great an importance to the metal reinforcements, which becomes more noticeable when the percentage of reinforcement is considerable. But these tests were made on columns with longitudinal reinforcement only and without transverse binding, which latter adds greatly to the strength. This binding is explicitly required in the Prussian Government and other proposals where E_s/E_c is taken at 15; and that figure may be taken as making allowance in some degree for it.

We have no satisfactory determination of the increase in strength due to the transverse reinforcement, whether in single bindings or a continuous spiral.

In the Report of the French Commission du Ciment Armé, art. 5, it is stated that where the concrete has spiral binding or transverse or oblique reinforcements, so disposed as to resist swelling under thrust, the safe loads may be increased in some measure, but not in any case to more than $\frac{6}{10}$ of the crushing strength as determined from tests on cubes of 20 cm. sides at the age of 90 days.

In the explanatory circular accompanying that report (p. 6) the value to be given to E_s/E_c is discussed, and its theoretic value is put at about 10. It is stated, however, that it is preferable to regard that coefficient as the result of experiences on pieces with longitudinal and transverse reinforcements, and not as representing the ratios found from concrete and

metal separately. It is to be taken as varying from 8 when the longitudinal reinforcements have a diameter equal to $\frac{1}{10}$ of the least dimension of the piece and the bindings are spaced at a distance equal to that least dimension in the direction of the length; up to 15 when the longitudinal bars are $\frac{1}{20}$ of the least dimension and the bindings are spaced one-third of that distance apart. In both cases the bindings are to be near the outer face of the concrete.

Again, on p. 4 of the circular, it is stated that it is desirable to encourage the proper use of the metal in both longitudinal and transverse directions. While an exact determination of the increase of strength due to the transverse reinforcement would be difficult, the investigations of the Commission du Ciment Armé enable it to be admitted, *faute de mieux*, that it is found by multiplying the resistance to crushing of the concrete by a coefficient

$$1 + m'\frac{V'}{V}$$

V′ being the volume of the transverse or oblique reinforcement, and V the volume of the concrete, m' being a variable coefficient depending on the efficiency of the union between the longitudinal bars. When the union is made by bindings in the usual way, m' varies from 8 when these bindings are spaced at a distance equal to the least transverse dimension of the piece to 15 when spaced at one-third that dimension.

When spiral binding is used m' varies from 15 to 32, the lower value being taken when the pitch of the spiral is $\frac{2}{5}$ of the least transverse dimension, and the higher when the spacing is $\frac{1}{5}$ of that dimension under a pressure of 50 kilos. per cm.^{2}, or $\frac{1}{8}$ under a pressure of 100 kilos. per cm.^{2}.

In no case should the working stress exceed $\frac{6}{10}$ of the resistance to crushing as determined on cubes, as before mentioned.

Appendix V.—EXAMPLES OF THE METHOD OF CALCULATION.

By William Dunn.

Rectangular Beams.

I. To determine the stresses on the steel and concrete of a floor slab 8 feet clear span, 6 inches thick, reinforced with bars $\frac{1}{2}$-inch diameter (= 0·1963 square inch area each), spaced at 5-inch centres and 1 inch from the bottom, the load being 250 lbs. per square foot in addition to the weight of the slab. The slab is supported at the ends only.

Dead load: concrete 150 × $\frac{6}{12}$	=	75 lbs. per square foot.
Wood floor, &c.	=	5 ,, ,, ,, ,,
Accidental load: as given above	=	250 ,, ,, ,, ,,
		330

Take a 12-inch breadth of the slab: the span $l = (12 \times 8) + 6 = 102$ inches; and the bending moment $= M = \frac{wl^2}{8} = \frac{330}{12} \cdot \frac{102^2}{8} = 35{,}763$ in. lbs. on every foot in breadth.

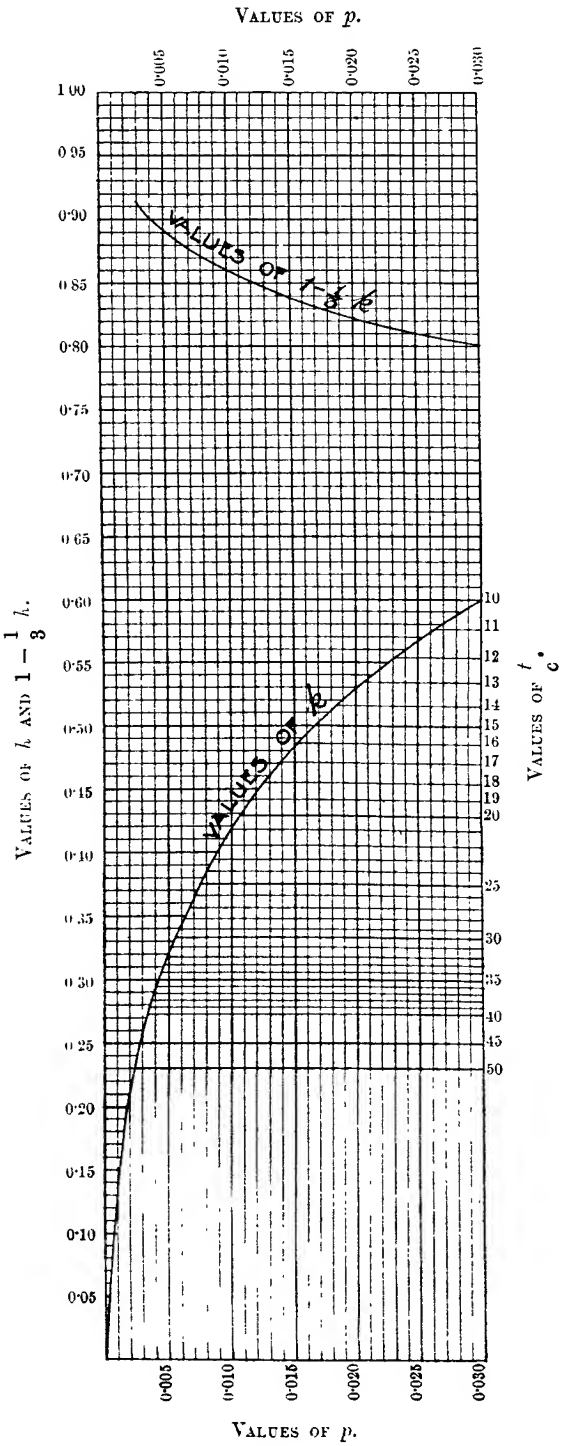
The depth d is $6 - 1 = 5$ inches.

In every 12 inches in breadth there are $\frac{12}{5}$ bars, each 0·1963 square inch in section. Accordingly, from page 521, we have

$$p = A_t/bd = \frac{0{\cdot}1963 \times \frac{12}{5}}{12 \times 5} = 0{\cdot}0078$$

$$k = \sqrt{(p^2m^2 + 2pm)} - pm$$
$$= \sqrt{(0{\cdot}0078^2 \times 15^2 + 2 \times 0{\cdot}0078 \times 15)} - 0{\cdot}0078 \times 15$$
$$= 0{\cdot}381$$

Also $$1 - \tfrac{1}{3}k = 0{\cdot}873.$$



Note.—When the proportion between the area of the steel and the area of the concrete is fixed, the proportion between the stresses in the two materials is also fixed. It is convenient to have the values of p, k, $(1-\tfrac{1}{3}k)$, and $\frac{t}{c}$ in the form of a diagram showing the relations of each with the others, and such a diagram is given herewith. Thus, given the value of $p = 0{\cdot}0078$, trace the vertical corresponding to that from the scale at foot to intersection with the first curve. From this intersection trace the horizontal to the scale at right and read the corresponding value of $\frac{t}{c} = 24{\cdot}2$; trace the horizontal to the left and read the corresponding value of $k = 0{\cdot}381$. Similarly trace the same vertical to intersection with upper curve and the horizontal through that intersection, read on the scale at the left, gives the corresponding value of $1 - \tfrac{1}{3}k = 0{\cdot}873$.

The stress in the steel is (page 522)

$$t = \frac{M}{pbd^2\,(1 - \tfrac{1}{3}k)}$$
$$= \frac{35{,}763}{0{\cdot}0078 \times 12 \times 25 \times 0{\cdot}873}$$
$$= 17{,}505 \text{ lbs. per square inch.}$$

The stress on the concrete is

$$c = \frac{2\,M}{kbd^2\,(1 - \tfrac{1}{3}k)}$$
$$= \frac{71{,}526}{0{\cdot}381 \times 12 \times 25 \times 0{\cdot}873}$$
$$= 717 \text{ lbs. per square inch.}$$

If the floor slab were fixed at the supports by reason of the slab being continuous over beams, or properly fixed in the walls, the bending moment at the centre may be taken at $\frac{wl^2}{12}$ and that at the ends as $\frac{wl^2}{24}$. The bending moment at centre being $\frac{wl^2}{12} = \frac{330}{12} \cdot \frac{102^2}{12}$ $= 23{,}842$ inch lbs., the stress in the steel would be

$$t = \frac{M}{pbd^2\,(1 - \tfrac{1}{3}k)}$$
$$= \frac{23{,}842}{0{\cdot}0078 \times 12 \times 25 \times 0{\cdot}873}$$
$$= 11{,}670 \text{ lbs. per square inch.}$$

The stress in the concrete would be

$$c = \frac{2M}{kbd^2(1 - \frac{1}{3}k)} = \frac{47{,}684}{0{\cdot}381 \times 12 \times 25 \times 0{\cdot}873} = 477 \text{ lbs. per square inch.}$$

The stresses at the supports will be half these amounts, and accordingly the concrete must be reinforced over the supports with bars half the area of those at the centre and 1 inch below the *top* surface, as well as with the bars in the lower part; *i.e.*, $0{\cdot}1963 \times \frac{12}{5} \times \frac{1}{2} = 0{\cdot}235$ square inch per foot in width, or, say, $\frac{3}{8}$ inch rods 5 inch centres.

The maximum shear occurs at the supports, and is $S = \frac{330 \times 8}{2} = 1{,}320$ lbs.

The maximum shearing stress is $\frac{S}{bd(1 - \frac{1}{3}k)} = \frac{1{,}320}{12 \times 4{\cdot}365} = 25$ lbs. per square inch.

The maximum adhesive stress is (page 494)

$$\frac{w(l - 12)}{2\psi d(1 - \frac{1}{3}k)} = \frac{\frac{330}{12}(102 - 12)}{2 \times 1{\cdot}57 \times \frac{12}{5} \times 4{\cdot}365} = 75 \text{ lbs. square inch.}$$

II. A beam of 15 feet 4 inches span from centre to centre of bearings is required to carry an uniformly distributed load of 10 tons. The stress on the steel is to be 17,000 lbs. per square inch, and on the concrete 600 lbs.; the breadth of the beam is to be 14 inches. To find the sectional area of the metal and the depth required.

The bending moment is

$$\frac{Wl}{8} = \frac{10 \times 2{,}240 \times 184}{8} = 515{,}200 \text{ in. lbs.}$$

From page 521 :—

$$\frac{mc}{t} = \frac{k}{1 - k} \quad \therefore \frac{15 \times 600}{17{,}000} = \frac{k}{1 - k} \quad \therefore k = \tfrac{9}{26}$$

$$k = 0{\cdot}346 \text{ and } 1 - \tfrac{1}{3}k = 0{\cdot}8847$$

Also from page 521 :—

$$ck = 2pt, \text{ that is, } 600 \times 0{\cdot}346 = 2p\ 17{,}000.$$
$$\therefore p = 0{\cdot}0061.$$

From page 522 :—

$$t = \frac{M}{pbd^2(1 - \frac{1}{3}k)} = 17{,}000 = \frac{515{,}200}{0{\cdot}0061 \times 14 \times d^2 \times 0{\cdot}8847}$$

$$d = \sqrt{\frac{515{,}200}{0{\cdot}0061 \times 14 \times 0{\cdot}8847 \times 17{,}000}} = \sqrt{401} = 20 \text{ in.}$$

Sectional area of metal $= pbd = 0{\cdot}0061 \times 14 \times 20 = 1{\cdot}708$ square inches.

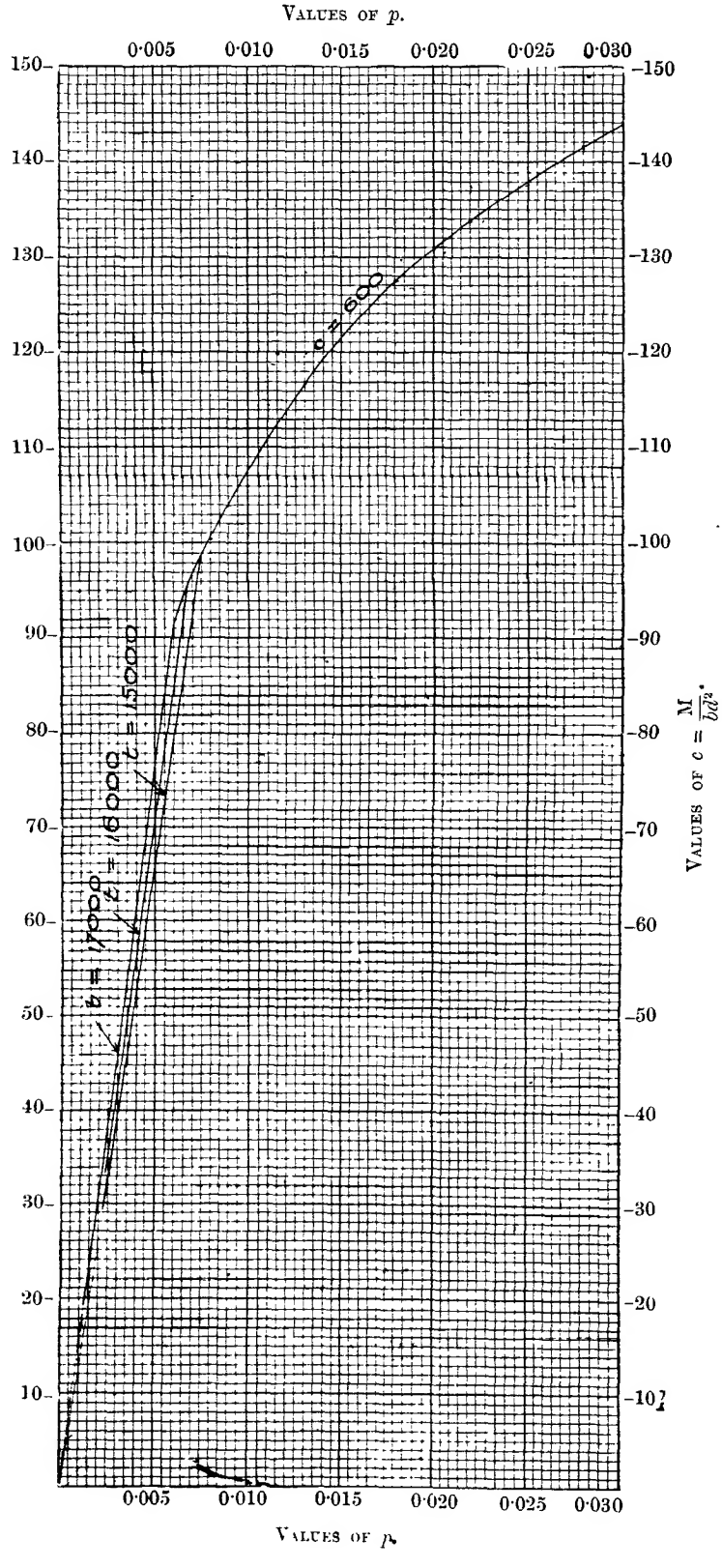
Four rods each $\frac{3}{4}$ in. diam. $= 0{\cdot}44$ square inch would give this area.

NOTE.—The equation for the strength of rectangular beams of reinforced concrete is frequently put in the form $M = Cbd^2$, where C has a value varying with the proportion of the reinforcement and the maximum stresses allowed in the concrete and metal. Thus, when the maximum stress in the steel is not to exceed 17,000 lbs. per square inch and in the concrete 600 lbs., the values of C for $p = 0{\cdot}005$ is $76{\cdot}0$; for $p = 0{\cdot}01$ it is $107{\cdot}7$; for $p = 0{\cdot}015$ it is $121{\cdot}69$, &c. The diagram on p. 536 gives the range of values for ordinary proportions of reinforcement.

As an example of the use of this diagram, let it be required to find the proportion of reinforcement which must be used in the example first given in order that the stresses in the steel and concrete may not exceed 17,000 and 600 lbs. per square inch respectively.

From the equation $Cbd^2 = M$ we have by inserting the values formerly given

$$C \times 12 \times 25 = 35{,}763$$
$$\therefore C = 119{\cdot}2.$$


Values of p.
0·005
0·010
0·015
0·020
0·025
0·030
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
c = 600
c = 15000
c = 16000
c = 17000
Values of c = M/bd²
Values of p.

Tracing the horizontal through this value in the scale at the right or left hand sides of the diagram to intersection with the curve, and the vertical through the intersection to the scale at foot, we find that p must equal 0·014, and as $pbd = A_t$, we have $0{\cdot}014 \times 12 \times 5 = 0{\cdot}84$ square inch in a breadth of 12 inches. A $\frac{3}{4}$-inch rod is 0·44 square inch area, so that $\frac{3}{4}$ rods at $6\frac{1}{4}$-inch centres would give this proportion; or $\frac{5}{8}$ rods at $4\frac{1}{2}$-inch centres.

As another example, a beam is required to carry a distributed load of 20 tons (including its own weight) at 12 feet span. It is to be reinforced with 1 per cent. of metal, and the stresses must not exceed 17,000 lbs. in the steel or 600 in the concrete. The breadth is to be 18 inches; what is the necessary depth?

The value of c corresponding to $p = 0{\cdot}01$ is found from the diagram to be 107·7. We have therefore

$$Cbd^2 = M$$

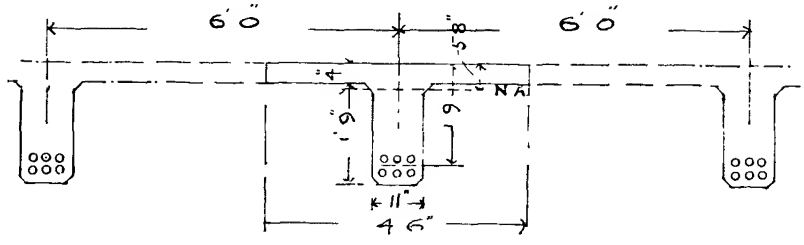
$$107{\cdot}7 \times 18 \times d^2 = \frac{20 \times 2{,}240 \times 144}{8}$$

$$d^2 = \sqrt{415}$$

$$d = 20{\cdot}37 \text{ inches}$$

T Beams.

III. A floor, 24 feet span, constructed as in the figure annexed, with 4-inch floor slab and main beams spaced at 6-foot centres, carries a load of 130 lbs. per square foot, uniformly distributed. There are six rods $\frac{7}{8}$ inch diam. in the lower part of the beams, having a total sectional area of $0{\cdot}6 \times 6 = 3{\cdot}6$ square inches. It is required to find the maximum stress on the steel and the concrete.



Weight of floor:—

	lbs. per foot run
Slab 6′ × 4″ × 150 lbs.	= 300
Beam 1′ 9″ × 11″ × 150 lbs.	= 260
Asphalte flooring 6′ × 1′ × 12·6 lbs.	= 76
Dead load	636
Accidental or imposed load 6′ × 1′ × 130	780
Total load	1,416

The bending moment, the ends being simply supported, is

$$\frac{wl^2}{8} = \frac{1416}{12} \times \frac{288^2}{8} = 1{,}223{,}424 \text{ inch lbs.}$$

The width of the slab to be reckoned as acting with the beam is 6 feet $\times \frac{3}{4} = 4$ feet 6 inches = 54 inches.

Position of the neutral axis:—

$$kd = \frac{b_1 d_1^2 + 2A_t md}{2b_1 d_1 + 2A_t m} = \frac{54 \times 16 + 2 \times 3{\cdot}6 \times 15 \times 21}{2 \times 54 \times 4 + 2 \times 3{\cdot}6 \times 15} = 5{\cdot}8 \text{ in.}$$

Distance from top surface to centre of pressure in concrete:—

$$z = \frac{d_1}{3} \cdot \frac{3kd - 2d_1}{2kd - d_1} = \frac{4}{3} \cdot \frac{17{\cdot}4 - 8}{11{\cdot}6 - 4} = 1{\cdot}65 \text{ inch.}$$

Stress on the steel :—

$$t = \frac{M}{pA(d - z)} = \frac{1,123,424}{3{\cdot}6(21 - 1{\cdot}65)} = 17,563 \text{ lbs. per square in.}$$

Stress on the concrete :—

$$c = \frac{2Mkd}{b_1 d_1(2kd - d_1)(d - z)} = \frac{2 \times 1,123,424 \times 5{\cdot}8}{54 \times 4(2 \times 5{\cdot}8 - 4)(21 - 1{\cdot}65)} = 447 \text{ lbs. per sq. in.}$$

Max. shearing force at ends :—

$$S = \frac{1,416 \times 24}{2} = 16,992 \text{ lbs.}$$

and the shearing stress is

$$\frac{S}{b(d - z)} = \frac{16,992}{11 \times 19{\cdot}35} = 79 \text{ lbs. per sq. in.}$$

As this is a greater shearing stress than is permissible on the concrete, it would be necessary to bend upwards the three upper rods in the usual manner, near the ends. The permissible shearing stress on the concrete being 60 lbs., the amount which the concrete could take is $\frac{16,992 \times 60}{79} = 12,905$ lbs., and the points at which this occurs, and at which the rods should bend up, is $\frac{16,992 - 12,905}{1,416} = 2{\cdot}8$ feet from the ends. The adhesion stress on the lower rods near the ends is

$$\frac{w(288 - 12)}{2\psi(d - z)} = \frac{\frac{1416}{12} \times 276}{2 \times 3 \times 2{\cdot}748 \times 19{\cdot}35} = 102 \text{ lbs. per. sq. in.}$$

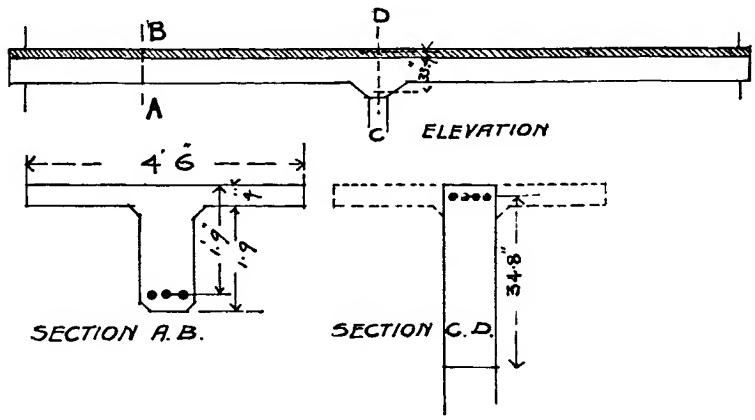
NOTE.—Diagrams similar to that on page 536 may be prepared which very much lessen the labour of calculations for T beams. There is usually little error in reckoning T beams as rectangular beams of breadth b, and depth d, the percentage of metal being taken in relation to the rectangle b, d.

CONTINUOUS BEAMS.

IV. The exact determination of the stresses in a beam on three or more supports—tedious enough in the case of steel beams of which the moment of inertia at any section can be exactly determined—is rarely attempted with reinforced concrete beams. When a case is sufficiently important to justify the labour, the investigation is usually made on the assumption of a constant moment of inertia (uniform section)—a condition seldom realised. In the case of T beams, the section is T form near the centre of the span, where there is a positive moment ; but over the supports the moment is negative, and the tension is in the upper part. As the concrete is not reckoned as taking any tension, the flange or horizontal (side) parts of the T are not reckoned in the calculation, and the beam is taken as a rectangular beam. The assumption of constant cross-section is thus not accurate. Building in the ends of beams into walls rarely fixes the ends in a perfect way, and there is always the risk of unequal settlement of the supports altering the whole conditions and stresses.

How much allowance to make for the end moments over the supports is largely a matter for the judgment and experience of the designer. When end moments are, however, allowed for, and the central moments correspondingly reduced, calculations should always be made to ascertain that the sections and reinforcements at the ends are sufficient to resist the moments allowed for.

Suppose the floor in the last example, but reinforced with three $\frac{7}{8}$-inch diameter rods only, is continuous over two equal spans. The negative bending moment over the centre support on the assumption of a constant cross-section would be $-\frac{wl^2}{8} = 1{,}223{,}424$ in. lbs. The floor slab being at this point in tension is not reckoned; so we take the section as a rectangle, and it is generally necessary to increase the depth at the supports in the manner shown in



section C D above. Let the stresses for steel and concrete be respectively 17,000 and 600 lbs. per square inch. For $\frac{t}{c} = \frac{17{,}000}{600}$, the corresponding value of p is 0·0061. We find from the diagram (page 536) that with this value of p the value of C is 91·8, and from the formula $Cbd^2 = M$ we find

$$d = \sqrt{\frac{M}{Cb}} = \sqrt{\frac{1{,}123{,}424}{91{\cdot}8 \times 11}} = 34{\cdot}8 \text{ inches.}$$

The sectional area of metal required is $34{\cdot}8 \times 11 \times 0{\cdot}0061 = 2{\cdot}33$ square inches, and four rods $\frac{7}{8}$-inch diameter give this.

The maximum positive bending moment in the spans is found at $\frac{3}{8}\,l$ from each end. It is equal to $\frac{9wl^2}{128} = \frac{9 \times \frac{1416}{12} \times 288^2}{128} = 688{,}176$ in. lbs. Here we have the T section and use the formula (page 523) to find the position of the neutral axis:

$$kd = \frac{b_1 d_1^2 + 2A_t md}{2b_1 d_1 + 2A_t m} = \frac{54 \times 16 + 2 \times 2{\cdot}4 \times 15 \times 21}{2 \times 54 \times 4 + 2 \times 2{\cdot}4 \times 15} = 4{\cdot}71 \text{ inches.}$$

Distance from top surface to centre of pressure in concrete:—

$$z = \frac{d_1}{3} \cdot \frac{3kd - 2d_1}{2kd - d_1} = \frac{4}{3} \cdot \frac{3 \times 4{\cdot}71 - 2 \times 4}{2 \times 4{\cdot}71 - 4} = 1{\cdot}507 \text{ inch.}$$

Stress in steel:—

$$t = \frac{M}{pA(d - z)} = \frac{688{,}176}{2{\cdot}4(21 - 1{\cdot}507)} = 14{,}711 \text{ lbs. per square inch.}$$

Stress in concrete:—

$$c = \frac{2Mkd}{b_1 d_1 (2kd - d_1)(d - z)} = \frac{2 \times 688{,}176 \times 4{\cdot}71}{54 \times 4\,(2 \times 4{\cdot}71 - 4)\,(21 - 1{\cdot}507)} = 284 \text{ lbs. per square inch.}$$

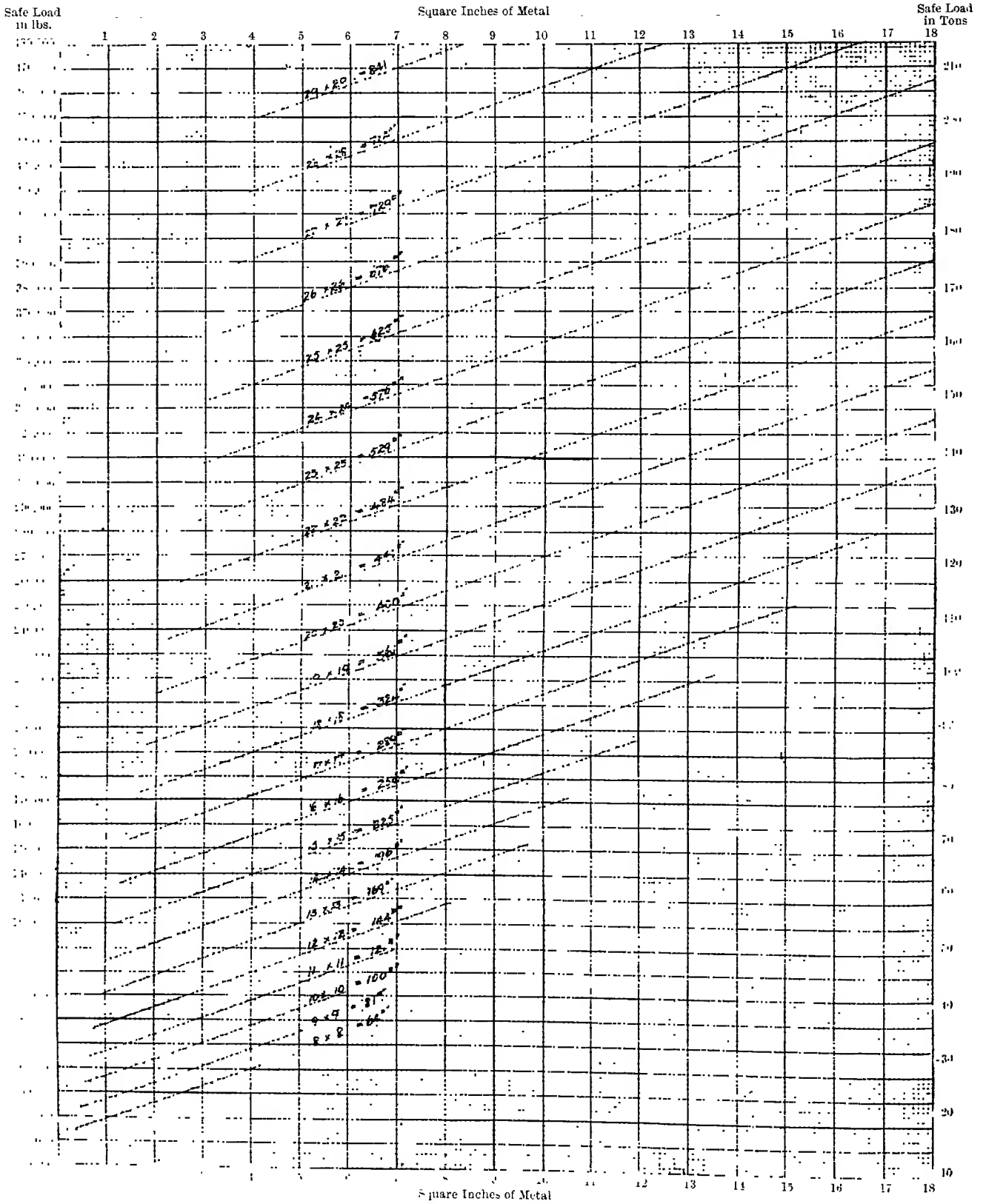


DIAGRAM SHOWING SAFE LOAD ON CONCRETE COLUMNS REINFORCED WITH LONGITUDINAL RODS, WITH CROSS BINDINGS.

Columns.

Axial Loading.

V. A column of reinforced concrete 12 inches square, reinforced with four rods each $\frac{3}{8}$-inch diameter (total area of steel rods $0{\cdot}6 \times 4 = 2{\cdot}4$ square inches), which rods are bound together at intervals of a foot with $\frac{3}{16}$-inch diameter wires, supports a load of 80,000 lbs., applied axially. To find the stresses on the steel and the concrete :—

Stress in concrete :—

$$c = \frac{P}{A_c + (m-1)a} = \frac{80{,}000}{144 + 14 \times 2{\cdot}4} = 450 \text{ lbs. per square inch.}$$

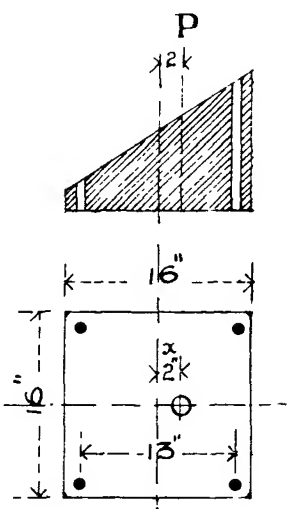
Stress in steel :—

$$t = \frac{mP}{A_c + (m-1)a} = \frac{15 \times 80{,}000}{144 + 14 \times 2{\cdot}4} = 6{,}757 \text{ lbs. per square inch.}$$

NOTE.—The strength of concrete columns reinforced with vertical rods may readily be obtained from a diagram such as that given on page 540, which has been calculated for a maximum stress of 500 lbs. per square inch in the concrete, with $m = 15$.

Eccentric Loading.

A column of the section shown in the margin has to support a load applied at O, 2 inches from the centre. What is the maximum load to be applied if the maximum stress on the concrete is limited to 500 lbs. per square inch ?



From the figure we have $A_c = 16 \times 16 = 256$ square inches ; $h = 16$; $h_1 = 13$; $x = 2$.

Then from page 525 : –

$$A = A_c + (m-1)a = 16 \times 16 + (14 \times 0{\cdot}6 \times 4) = 290$$

$$Z = \frac{1}{6} A_c h + \frac{1}{2}(m-1)a \frac{h_1^2}{h}$$

$$= \frac{1}{6} \times 256 \times 15 + \frac{1}{2}(14 \times 2{\cdot}4)\frac{169}{16} = 817{\cdot}45$$

The stresses at the edges of the section are :—

$$f = W\left\{\frac{1}{A} \pm \frac{x}{Z}\right\} = W\left(\frac{1}{290} \pm \frac{2}{817{\cdot}5}\right)$$

Taking the maximum stress at 500 lbs. :—

$$500 = W \times \frac{817{\cdot}5 + 580}{237{,}075},$$

$$\text{or} \quad W = \frac{500 \times 237{,}075}{1397{\cdot}5} = 84{,}821 \text{ lbs.}$$

The stress at the side farthest from the load is :—

$$f = W\left\{\frac{1}{A} - \frac{x}{Z}\right\} = 84{,}821\left\{\frac{1}{290} - \frac{2}{817{\cdot}5}\right\} = 85 \text{ lbs. per square inch.}$$

9, CONDUIT STREET, LONDON, W., 15th June 1907.

CHRONICLE.

The County Hall Competition.

The proceedings at the Special General Meeting of the 28th ult. were briefly indicated in the Minutes printed in the last number of the JOURNAL, and it now remains to report the discussion. The Meeting had been summoned by the Council, in compliance with the requisition of Messrs. James S. Gibson [F.], H. V. Lanchester [F.], E. A. Rickards [F.], W. G. Wilson [F.], Alfred W. S. Cross [F.], C. E. Mallows [F.], Herbert Read [F.], R. Falconer MacDonald [F.], Herbert W. Wills [A.], C. E. Hutchinson [A.], John Anderson [A.], and J. R. Best [A.], for the following purposes, viz.: (a) To consider the conditions and instructions issued by the London County Council governing the competition for a new County Hall (and any replies to competitors forming part of such conditions). (b) To consider any action taken by the Institute Council with reference to the initiation, conduct, conditions, and instructions of the competition. (c) To propose any resolutions which may arise out of the subjects or matters dealt with under Clauses (a) and (b).

THE PRESIDENT (Mr. Thos. E. Collcutt) having stated the business of the Meeting,

Mr. JAMES S. GIBSON [F.] addressed the Meeting, reading his remarks, as follows:—

Mr. President and Gentlemen,—I have felt that this matter of the new County Hall Competition has arrived at a stage when it is necessary that the whole body of the Institute should have the facts, as far as they are known to me at any rate, laid before them, and I hope, with your indulgence, as briefly as possible to place before you a statement of the conditions and instructions governing the competition, and, as far as I also know them, the efforts made by the Council to deal with the matter.

In dealing with this matter it shall be my endeavour to treat it from the impersonal standpoint, and I think we should all look at it from the point of view of public policy, and leave as much as we can of personal feelings, likes and dislikes, out of the question. In this way we shall arrive at sounder conclusions, and shall not be saying in haste what we might repent at leisure. As far as it is necessary to say anything personal about the Assessors and the seven members of the Institute who have accepted the invitation to submit designs, I shall be as careful as I can in my language, and can assure them that I have no personal bias or feeling regarding them. I hope they will agree with me that a matter which so closely affects the well-being of the profession should be discussed, and some conclusion arrived at, by the members of the Institute.

The project of building a new County Hall is one which has been familiar to us all for some years, and I believe that the great majority of architects, and certainly the best architects, of the Institute would have been delighted to submit designs, sparing neither brains, time, nor money to produce the finest schemes of which they are capable, if the conditions governing this competition were fair and honourable. I am certain that an appeal to the architects of this country on broad, public-spirited lines would have met with a most generous response, for I know of no profession which is so ready to give of its best, almost without thought of recompense and reward, as our own profession. Unfortunately that public-spirited and generous appeal has not been made, and the Instructions as issued are not fair and honourable, and so we have met to-night to see what is best to be done.

First, let me say that we are not here either individually or collectively as architects fighting for our own hand; we are here as members of an Institute of long standing and honourable name, whose constitution, laws, and regulations we must uphold and transmit untarnished to our successors. These regulations and laws have been made in the interest of the public and of the whole profession, not of any section or party, and any attempt to set these regulations aside on any pretext whatever should be closely scrutinised, and if found unworthy should be resisted by us all.

I would now direct your attention to the scheme of the Competition as set out in the Instructions issued by the London County Council, and point out in detail where these contravene our Regulations, and where I consider they are unjust and dishonourable and contrary to the public interest.

In the early days of 1906 the Institute approached the County Council with the object of offering advice or assistance in the matter of obtaining designs for a new County Hall which would be worthy of its important purpose and would take its place among the other great buildings of London, and the Council of the Institute immediately appointed a committee to deal with the matter and report. The result was a series of suggestions on certain definite lines which were laid before the County Council for its consideration and adoption if possible. These suggestions were broadly as follows:—

1. A competition was advocated, this competition to be in two stages: the preliminary, open to all architects, and the final, open to those selected.
2. A limited number of architects should be invited to take part in the final stage, without having to pass through the preliminary.
3. The drawings to be submitted in the preliminary competition to be as few in number and small in scale as possible, so as to secure the personal labour of the architect, not the services of the mechanical draughtsman.
4. A jury of three Assessors, appointed as follows:—One by the competitors in the preliminary competition, one by the President of the R.I.B.A., and the third to be the Superintending Architect of the London County Council.
5. The architect whose design is selected as best by the Assessors in the final stage to be appointed as Architect for the buildings, unless in the opinion of the Assessors there is any grave reason to the contrary.

The Conditions of this Competition were never laid before the Institute Council, and we have never had any opportunity to express an opinion on them. It has been stated at a meeting of the London County Council and in the public Press that these Conditions had been approved by the Royal Institute of British Architects. I should be sorry to think that the Institute should at any time endorse conditions which are subversive of good architecture. The Council of the Institute have protested against these very

conditions, and we are backing the Council up by this endeavour to get them amended. The germ idea of the Institute Council was to provide the means of finding, if possible, a great architect, and this was outlined in the suggestion for only small-scale drawings, which would allow him to express his own ideas in his own way. This has been changed in the issued Instructions to the usual $\frac{1}{16}$-inch-scale drawings, which will probably be painfully elaborated in the strictly mechanical and useless sense. Many precious weeks of time will probably be spent in absurd detailing of trifles, and great architectural ideas will be subservient to mechanical labour. A jury of three Assessors was suggested to select the designs in both stages. This idea has been rejected in favour of a jury of two in the preliminary competition and a jury of three in the final stage. This is a matter of vital importance: the jury of three ought to be appointed at the outset, and all designs ought to be submitted to them. If the services of three Assessors are necessary in order to make a wise final choice from a limited number of designs, the need for their combined judgment is more imperative in the preliminary competition. The success of the competition largely depends on the choice made in the preliminary stage, and it is in this stage that the jury of three Assessors would command the confidence of all architects. In the Institute Regulations for the Conduct of Architectural Competitions clause 1 says: "All the designs sent in should be submitted to the Assessors," and this is clearly a case where all the designs are not to be submitted to the whole of the Assessors, but only a very small portion of them.

The Institute Council also advised that the architect whose design was finally selected should be appointed architect for the buildings, provided no grave reason to the contrary could be found. The County Council, however, make it a condition that the Superintending Architect shall be practically joint architect with the selected competitor for the buildings. They stipulate that Mr. W. E. Riley, the Official Architect, shall have discretionary power in all matters relating to internal economy, building construction, and stability. "The successful architect shall obtain all the information he requires upon the site, making the necessary estimates, preparing all the necessary sketches, working drawings, detail drawings, and specifications, subject to the Council's approval in all matters which in the opinion of the Official Architect should be brought to it for decision. The successful architect shall prepare all the necessary copies of the drawings and documents for the proper execution of and use on the works, and also the drawings, &c., for the records of the Council, and exercise"—(this is important)—"in conjunction with the Official Architect, general and usual superintendence of works during progress, examine and certify the accounts for the works and payments under the contract. For these services the successful architect and the Council's Official Architect will be remunerated on the basis of the usual five per cent. on the total cost of the completed building, other than the work connected therewith which will not devolve upon the successful architect, and this commission will be paid in the usual manner and will be divisible between the two architects in the proportion of nine-tenths to the successful architect and one-tenth to the Council's Official Architect."

I wish to point out that Mr. Riley is not only made joint architect, and his duties and emoluments defined in the Instructions, but he is also at the same time one of the two Assessors who have drawn up the Conditions, and who will be the sole judges in the preliminary stage of the competition. This dual appointment as Assessor and joint architect strikes at the root of the proper conduct of public competitions, and must be felt by all right-thinking men to be against the public interest. I would also draw your attention to clause 3 of our Regulations for the Conduct of Competitions, which is as follows:—"No promoter of a competition, and no Assessor engaged upon it, nor any employé of either, should compete, or act as architect, for the proposed work." You can see how flagrantly this regulation has been violated. I am not proposing to hazard any guess at the reason for this dual appointment of Mr Riley as Assessor and joint architect. Various explanations have been offered to me by others, such as the special knowledge which Mr. Riley has of the requirements of this building, or the expediency of having the Official Architect to look after the interests of the L.C.C. in so large a matter, or the possibility of a design being selected which is the work of a Frenchman, or an American, or other international architect; but I do not think it necessary to insult your intelligence or waste your time by seriously considering these explanations, which explain nothing except their own fatuousness.

I want to put this matter very shortly and clearly to you. Here is a regulation framed in the interests of the whole architectural profession, a regulation which is necessary to preserve and ensure the proper conduct of competitions as far as Assessors and employés of the promoters are concerned. Its language is clear and simple: "No Assessor engaged upon a competition should compete or act as architect for the proposed work," and yet we find the appointment of Mr. Riley (an Assessor) as joint architect one of the essential conditions of the competition. The Regulation says no employé of the promoters of a competition should compete or act as architect for the proposed work, and yet we find the appointment of Mr. Riley (an employé of the L.C.C.) as joint architect one of the essential conditions of the competition. Even did we admit that the Regulations of the Institute might be regarded with a certain latitude in cases where a definite gain to the public would thereby be ensured, one fails to see the slightest justification in this case, as the public interests can be equally well safeguarded without inflicting any indignity on the architectural profession.

We are also face to face with this curious state of things: out of the seven invited architects who have accepted the invitation to compete, five are now members of the Council of the Institute, and one was a member when this matter was being considered, making a total of six out of seven.

These gentlemen have evidently accepted, perhaps inadvertently, the present conditions of this competition, and have thereby transgressed the Regulations of the Institute, and, as far as I know, have given no explanation of their conduct either to the Council of the Institute or to the members. But perhaps we shall have from them some such explanation to-night.

The Council also, as far as I know, have not called upon these gentlemen to explain or justify their action; and so serious has this scandal been considered by some members of the Council that it was felt we could only show our disapproval of such conduct by resigning from the Council of the Institute, and Messrs. Cross, Mallows, Lanchester, and myself have accordingly resigned so that we may be independent of the Council at this meeting.

[An objection at this point by Mr. R. F. Chisholm [*F.*] and another member against the use of such terms as "scandal" and "dishonourable" was upheld by the President.

Mr. Gibson intimated his acceptance of the President's ruling, and continued: I have stated to you that, so far as I know, the members of the Council of the Institute who have been invited to take part in this competition have never at any time either been asked to give, or have given, any explanation of their conduct.

The President: Of what conduct?

Mr. Gibson: The conduct of accepting the Conditions, which are contrary to the Regulations of the Institute.

The President: This is the first time that it has been called in question. You must allow me to say that you have had nearly six months to bring up this question, and you have delayed doing so until now.]

Mr. Gibson (continuing the reading of his Paper): I will not much longer detain you except by very briefly referring to the other matters in the Instructions, which go to prove that this whole competition has been conceived in a parochial and unworthy manner.

The Instructions may be said to indicate that the L.C.C. intend to form a gigantic concrete raft or tank upon which the buildings are to be erected, and that this raft or tank is to be constructed from the designs and under the control of the Official Architect or Engineer, and that the successful architect shall not be paid one penny in fees on the cost of this work, which must involve many thousands of pounds' expenditure. It is rather puzzling to me to see how the special aptitude in matters relating to internal economy, building construction, and stability can be successfully employed in designing and constructing such a raft without any information from the author of the successful design as to the varying loads, weights, and requirements of his design; but the possible misuse of many thousands of pounds' worth of concrete, asphalte, and digging is perhaps as nothing compared to the saving of the architect's 4½ per cent., or the taking from him of a part of his work which all real architects are proud to do, and, I would venture to say, are as capable of doing successfully as any Official Architect or Engineer.

I do not like this attempt to take away from architects any proper part of their legitimate work, whatever may be the motive at the back of it; but I am quite willing to forego any such secondary matters as these if the Official Architect had advised his Council that equity to all parties demanded the immediate appointment of three Assessors who should act throughout the Competition, and that he himself be either Assessor or joint architect, but *not* both. Had he done so, I am certain he would have ensured a magnificent response to the invitation to submit designs; he would have gained the respect and esteem of all members of the profession, and have done justice to his fellow architects, and have given a loyal support to the Regulations of the Institute of which he is a member. I fear, however, that he is not likely to do any of these things; therefore we must decide to-night whether members of the Institute are to condone the violation of its Regulations, or call upon the seven members who have been invited to submit designs to refrain from taking any part in the Competition, and I trust all members of this Institute will cordially support them in such action, and will also in such case refrain from competing until the Conditions are amended to conform with our Regulations.

It may be plausibly urged that there is little time now to get these Conditions altered; that many men have been hard at work for weeks on their designs, and such like reasons for doing nothing; but let me say it is never too late to right a wrong. The delay of a few weeks or a few months in the reception of the designs by the L.C.C. is as nothing compared to the immense injury which you will be doing the whole architectural profession if you allow this to pass unchallenged. The answers to the questions asked by the competitors have only been issued ten days ago, and so no one can allege that any great amount of profitable work will be thrown away if a delay in the reception of the designs is now decided upon; but a very serious permanent injury will be inflicted on the whole profession if you do not take a firm stand on this matter. This will be cited as a precedent in future competitions, and before many years have passed the local architect or surveyor to the public bodies promoting competitions will be made joint architect, and the power and authority of the real architect will be still further taken from him.

I would make a personal appeal to the seven invited architects who are so closely concerned with this matter. You have the solution of the whole business in your own hands. If you stand together and are loyal to the Institute and to your fellow architects; if you desire to preserve the integrity of the future conduct of public competitions; if you wish to retain the esteem and regard of your *confrères*, retire at once from this Competition and have nothing to do with it until the Conditions are such as all members can accept, and we shall support you with whole-heartedness, and take up a like position.

Mr. George Hubbard, F.S.A. [*F.*], asked if the President would allow to be read to the Meeting the correspondence which he understood had taken place between the Institute and the London County Council. The more facts the Meeting had before them the better chance they would have of coming to a right judgment.

Professor Beresford Pite: May I ask if Mr. Gibson has moved a resolution? What is the business before the Meeting?

The President: No, he has not moved a resolution.

Professor Pite: Is there any business before us?

Mr. Gibson: Yes, a discussion of the Conditions.

The President directed the Secretary to read to the Meeting the following correspondence:—

From the Secretary R.I.B.A. to the Clerk of the London County Council.

26*th March* 1907.

Sir,—I am directed by my Council to write you on the matter of the Conditions of the Competition for the New County Hall.

In a report of the proceedings of the London County Council, dated 5th February, it is stated therein that the "Conditions of the Competition have been approved by the R.I.B.A.," and my Council beg to direct your attention to the fact that the Conditions of this Competition have never been submitted to their consideration.

The attention of my Council has now been drawn to Instructions Nos. 8 and 9, which define the relations of the architect whose design is ultimately adopted to the Official Architect of the London County Council.

These provide that the Official Architect is to have "discretionary power in all matters relating to internal economy, building construction, and stability," while he is to have conjoint authority with the architect in superintendence and in certifying for payments.

My Council recognise the wisdom and reasonableness of a provision that the Official Architect should be consulted on matters relating to the work of the Council in the building, but feel that it is against the public interest that any part of the responsibility of the selected architect for carrying out the whole building which he has designed should be withdrawn from him.

They therefore urgently press upon the consideration of the County Council that Instructions Nos. 8 and 9 should be amended so as to appoint the successful competitor as sole architect, and to provide that Mr. W. E. Riley, the Official Architect, may act as consulting architect.

I am instructed further to point out that there is a well-established principle of the Royal Institute, binding on all its members, that no Assessor shall accept the appointment or act as architect to carry out a building on the designs for which he has to adjudicate. This rule has obviously a sound basis in the public interest, and my Council submit it as a further weighty ground for the amending of the Instructions in the sense suggested.—I am, Sir, your obedient servant,

W. J. Locke, Secretary.

From the Clerk of the L.C.C. to the Secretary R.I.B.A.

14*th May* 1907.

Sir,—In reply to the letter dated 26th March 1907 from the Council of the Royal Institute of British Architects suggesting the amendment of certain clauses in the Instructions to Architects taking part in the Competition for

designs for the proposed new County Hall, I am directed to assure you that the Instructions were the outcome of most careful and prolonged consideration by a Committee of the Council and subsequently by the Council; and throughout the several stages of their consideration the Committee had the advice and assistance of an architect of the highest standing. The Instructions were approved by the Council so long ago as 5th February 1907, and previously to the receipt of your letter of 26th March the Council had not been favoured with any observations from the Royal Institute. The Committee consider that the Instructions as now drawn will best secure a good building well adapted to the Council's purposes, and in these circumstances, and also having regard to the fact that the competition has been in progress several weeks, the Committee regret that they cannot see their way to recommend the Council to make any material alteration in the Instructions as they at present stand.—I am, Sir, your obedient servant,

G. L. Gomme,
Clerk of the Council.

Mr. Wm. Woodward [*F.*] said it would be much to be regretted if the Meeting terminated without some few observations on the reverse side of the question to that brought forward by Mr. Gibson. Mr. Gibson said that this was a matter of public policy. But wherein would the public suffer from the attentions and from the skill which would be brought to bear upon the building by a man who, above all others, was so competent to act at the side of the architect who would be appointed to carry out the building? Mr. Gibson had said that these Conditions were not "fair and honourable." He (Mr. Woodward) had read those Conditions very carefully from beginning to end; he had read pretty well the whole of the correspondence which had taken place between the Institute and the London County Council, and all he could say was that throughout the L.C.C. Conditions of Competition there was not a single item, there was not a single condition, which could be said to be unfair or dishonourable. Mr. Gibson complained about the appointment of two Assessors in the first instance instead of three. They knew, however, perfectly well that one Assessor was quite as good as two, and even better than three. Therefore he attached very little importance to that point. But they had had a precedent for this particular case, which had afforded the very best results, in the happy collaboration of the Office of Works with Mr. Clyde Young in the completion of the new War Office according to the designs of Mr. William Young; and in the other Government buildings in Parliament Street, the design of the late Mr. Brydon. In his opinion the term "joint architect" was a misnomer. Mr. Riley never intended to act, and it was not intended by the County Council that he should act, as "joint architect," as they understood that term. A joint architect was a man who from the commencement to the completion acted with his fellow architect and received half the commission. However, they were not dealing, he hoped, entirely with the matter of pounds, shillings, and pence; they were dealing with a big principle, and therefore the question of commission, whether half, or a third, or whatever it was, did not necessarily come in. With regard to the Assessorship, the Council of the Institute in 1906 knew perfectly well that Mr. Riley was to act as Assessor in this competition. They knew perfectly well that they had done the right thing in suggesting or being party to Mr. Riley's becoming the Assessor in this competition, in the same way as Sir John Taylor and Sir Henry Tanner had acted as Assessors in the case of the War Office and other public buildings with the most splendid results; and he anticipated that equally satisfactory results would accrue from this competition for the County Hall. Mr. Gibson complained that these Conditions were not laid before the Institute. It was quite true that the Conditions word for word were not laid before the Institute, but the Conditions issued to competitors were practically the same as those suggested by the Council of the Institute. Mr. Gibson complained of the change of scale as being one of the variations from the suggestions made by the Institute Council. The scale adopted now was $\frac{1}{16}$ inch to the foot. He could see no ground for complaint on that score. He believed it was pointed out in the professional papers that the scale first suggested was too large for the ordinary size paper, and the London County Council had therefore reduced the scale to $\frac{1}{16}$ inch. Then Mr. Gibson said—and this was the whole crux of the thing—that Mr. Riley was "practically" joint architect. That word "practically" was a very useful term if one wished to draw a red herring across the scent of one's opponent. Either Mr. Riley was the joint architect or he was not. There was nothing to show that there was any intention on the part of the County Council, and there was no idea in the mind of the Council of the Institute, that he should be "joint architect." His duties were to be more of an advisory nature. If the architect of the work proposed to put a room at the north-east that should be at the south-west Mr. Riley would say, "No; those two officials are in constant communication; they should be quite close to each other." That was where the assistance of Mr. Riley would come in; and that was where the architect of the building would find a great benefit accruing from Mr. Riley's connection with the work. What objection could there be in relieving the architect from these difficulties? The result of not having a Mr. Riley was shown in the Foreign Office and other public buildings, where the planning had proved most inefficient for the purposes for which it was intended. It was to obviate that difficulty that the appointment of Mr. Riley was suggested. He had never heard it stated, or even suggested, that Mr. Riley forced himself into the position. He did not know that Mr. Riley had ever suggested that he should hold it; but he did know that if he were a member of the London County Council, knowing what he knew of the mistakes made by eminent architects in planning, he should be the very first to suggest that a man in the position of Mr. Riley would be of the utmost value for the successful administration of the building, having in view the purpose for which it was intended. The planning for the successful administration of a great department—that was the point to be considered in regard to these Regulations. Mr. Gibson laid great stress on the Regulations issued by the Institute with regard to competitions. But with regard to Regulation 3, Mr. Riley could in no sense be said to fall under that regulation. It could only be by a stretch of the English language and by a stretch of imagination that Mr. Riley could be said to be both Assessor and joint architect. Mr. Riley was not joint architect, because he had to report to the London County Council, his employers, if any question should arise. Mr. Gibson had referred to the proposed foundations, and had mentioned the question of commission. He had already said that he trusted this matter would not be judged entirely upon the question of commission. He thought it was a very good suggestion on the part of the London County Council, because if they started the work it would enable the building to be completed more quickly, and the architect selected to carry out the work would find a foundation provided for him; he should say he ought to be very well satisfied in having the foundation of such a site as that provided at the risk of the London County Council itself. Many architects, eminent as they might be, would be very pleased to be relieved of that risk, even at the sacrifice of a part of their commission. In the R.I.B.A. letter of the 26th March the words "Consulting Architect" were used, and it said that no Assessor should act as architect. He had given as much consideration to this subject as Mr. Gibson had, and he hoped members would give him credit for understanding what he was talking about; he did not hesitate to say that Mr. Riley's position was one which would be of especial benefit to the public, and of the

greatest possible use to the architect employed to carry out the work. The endeavour to upset these Conditions now was to be regretted. The Conditions had been sent out practically with the assent of the Council of the Institute, and at this late date it would be unfair to Mr. Riley to attempt to alter them. Supposing they induced the London County Council to alter the Conditions, to eliminate Mr. Riley's name from the position of Assessor and term him "Consulting Architect," what difference would it make? A consulting architect on a building of this sort was a man who would be consulted on every occasion where the architect of the building desired his opinion and the benefit of his knowledge and experience; and this was exactly the position the County Council intended Mr. Riley to occupy. It would be most unfortunate in June 1907, after the months which had elapsed since the Institute as a body knew the general tenor of these Conditions, that they should take any action to get them altered. The London County Council had been guided only by one principle—viz., to adopt in the main the outlines of the Conditions suggested by the Council of the Institute. He trusted that there would be no attempt on the part of a small dissatisfied section of the 2,000 members of the Institute to upset conditions which had been made in a fair and honourable manner by the London County Council.

Mr. Thomas Batterbury [*F.*] protested against the use of Mr. Riley's name. In his opinion his name should not have been imported into the discussion at all. He should have been referred to as the Superintending Architect of the London County Council. Otherwise it became a personal matter.

Mr. H. V. Lanchester [*F.*] said he thoroughly agreed with Mr. Woodward as to the assistance the Official Architect would be to the architect of the building. That assistance partook of the nature of the instructions of a client. But that would be quite different from the assistance that would be given by one acting as joint or as collaborating architect. It was with very great regret that he found himself in opposition to many of those who worked so well to secure the position of the Institute, and to whose efforts was owing the fact that it was now generally admitted that the views of the Institute Council carried great weight in the matter of what was fair between the public and the architect. His regret was the greater because he was certain that all concerned in the present question had acted with the firm belief that their procedure was dictated by the best interests of both the public and the profession. He felt that no architect ought to stand quietly by and see it tacitly assumed that an architect capable of success in a competition such as this could by any possibility be incapable of solving any problem of arrangement or construction that was fairly and squarely put before him. In a question of the instructions of a client to his architect, he was sure that in most cases where there had been failure in such matters it had not been because the architect was unskilful, but because he had never been given proper instructions. The instructions given to an architect were often very faulty, and sometimes it was difficult for him to realise what was actually wanted. In the present case there was no question that every facility would be given for realising what was wanted, and that was what the architect was entitled to. The architect must fulfil the clearly stated requirements of his client. The client—in this case the London County Council, with the aid of its professional advisers—might define the requirements; but to produce the best building, the best methods of fulfilling those requirements, must be for the architect, and for him alone. With regard to the Conditions objected to, he felt sure that the divided authority and responsibility must militate against the production of a really great work. If the Institute were united on this point, the London County Council could not fail to grasp the force of its protest, it being obvious that as paymaster it possessed all the necessary control. It had been suggested that this was a narrow-minded fight of the Institute *versus* the public. Even if it were, the Institute must protect its members against oppressive conditions. But it was not; it was quite clear that the public would suffer quite as much as the architect by these mistaken arrangements. He hoped they would come to a conclusion without any formal resolution; but if any formal resolution were moved he hoped they would all support it. The London County Council had its professional adviser, and had absolute power through him to instruct the architect to carry out every requirement; but the architect must have freedom to carry out those requirements in his own way.

Mr. H. Heathcote Statham [*F.*] said he could not help thinking that some part of the dissatisfaction that had been expressed with regard to the position claimed for Mr. Riley was based on an unfortunate reading of the County Council's document. The County Council, as had been said, was in the position of a client instructing his architect; but being a very large and multifarious body they required a competent mouthpiece to give their instructions. The small commission proposed for the County Council Architect seemed to favour the supposition that he was regarded as the mouthpiece of the client. He thought that what had been objected to really only arose on the interpretation of the wording of the Conditions—and that interpretation was very likely not what the framers of the Conditions intended. He thought it quite reasonable that the Council should desire their own professional representative to express their wishes as to the arrangement of the building. He wanted, however, to draw attention to another point which he thought one of the most important of all, but which was treated rather as a secondary point in Mr. Gibson's remarks—viz., the question of the scale of the drawings. It was, as far as he knew, quite inaccurate to say that it had been represented to the Council that their scale was too large, and that they had reduced it. It was represented to the Council in the Press that the one-sixteenth scale was too large, and they shortly afterwards issued, as a sort of appendix to one of their reports, a statement that no consideration as to the alteration of scale could now be taken up; that it was too late, or something to that effect. He was quite sure that the one statement was the result of the criticism. He had made from curiosity—for he had no intention of going into this enormous lottery himself—a little experiment as to what the building on the one-sixteenth scale would cover. He made out that if one worked on loose paper without glueing it down, one could just get it on to an antiquarian sheet; but if the drawing were strained and glued down, the antiquarian sheet would be too small. Although the one-sixteenth scale in ordinary competitions was considered a merciful and small scale, with a building of this enormous area one might almost say that the one-sixteenth scale was a working scale. At all events, as Mr. Gibson had suggested—although he did not emphasise it as he might have done—it came to this, that if the large scale were adopted the plan had to be worked out in detail, instead of its being the expression of a great architectural idea. If they could only persuade the promoters to take a smaller scale, it would be to the advantage of the competition, the object of the competition being to get out something really fine in the way of architectural conception. They all knew that it was much easier for the real man, the principal in the thing, to do that if he had to work upon a scale which he could handle himself without being necessarily dependent on the assistance of a large staff. He was afraid, however, that it was too late. If the Meeting thought that any representation would induce the County Council even now to reduce the scale of the competition, that would be a very important change for the better; he thought, indeed, they would be quite justified in trying to bring that about. It seemed to him that that was more important than this question about professional etiquette. It had been, he thought, more a matter of unfortunate wording than of any unfortunate intention.

Mr. HUBBARD said there had been no serious loss of time either on the part of the Council or of the Institute. The Conditions were only posted in February. The Council of the Institute objected to them in March, and it was only within the last fortnight that the London County Council had replied to the letter of the 26th March. The Institute in this matter ought loyally to support the Council. The Council had objected, and it was for this Meeting to stand by the Council and support them as far as possible.

Mr. GIBSON said he should like to reply to one or two of the points that had been raised by the other speakers, and then with the President's leave he would move a resolution.

Professor BERESFORD PITE [*F.*]: Will you read the resolution first?

Mr. GIBSON: I want to reply to the points raised by the other speakers.

THE PRESIDENT: You will have an opportunity of replying. We had better have the resolution first.

Mr. GIBSON said he proposed to lay before them the following resolution: "That a notice be immediately published in the JOURNAL and in the professional papers stating that, until the Conditions and Instructions governing the Competition for a new County Hall for London are brought into conformity with the Regulations of this Institute, all members are prohibited from taking any part in such competition; and that a copy of this resolution be sent to the London County Council." It had been mentioned from the Chair that a long time had elapsed since these Conditions were issued, or had been under consideration, and that it was only at this very late hour that they had been brought before the members of the Institute by some other members besides himself. For many months, however, in fact ever since the Conditions were issued in printed form, an endeavour had been made through the Committees of the Institute and through the Council of the Institute to get those Conditions amended. The reply to those endeavours had only just been received, and it was for that reason that it had now become imperative for the whole of the matter to be laid before members, and for the members to come to a decision upon it. It could not have been done before in justice to the Council. It had been done at the very earliest possible moment. With respect to the point raised by Mr. Woodward as to "collaboration" and the use of the words "practically joint architect," that was quite beside the point. Mr. Woodward's arguments showed that he entirely missed the point of the objections he (Mr. Gibson) had brought before the Meeting. He cited as an instance of "happy collaboration" the War Office and the late Mr. Brydon's building. Mr. Woodward must know that neither for the War Office nor for Mr. Brydon's building was there ever any public competition. It was quite within the discretion of the late Mr. Young or the late Mr. Brydon to enter into any terms that they thought fit as to collaboration with Sir John Taylor or any other architect. That was a matter they had no right to interfere in at all. With reference to an objection raised by a previous speaker, he should like to explain that he did not want to introduce the name of Mr. Riley into this discussion. He should have kept very carefully to the term "Official Architect" if he could have done so. The first time he had mentioned Mr. Riley's name was in a quotation from Clause 8 of the original Conditions, in which the name was specifically mentioned. He could not help it. He was quite willing, because he had every respect for Mr. Riley, to refer to him only as the "Official Architect." He should like to say that he heartily endorsed all that Mr. Woodward had said as to the immense value of the help which the Official Architect would be able to give to the successful competitor; but that was not the point. The point was this: the Official Architect should not be an Assessor and a consulting architect or a joint architect as well. He should be delighted with Mr. Riley as joint or consulting architect and not Assessor; but why he should wish to take up a position which was entirely contrary, not only to the Regulations of the Institute, but entirely contrary to the proper conduct and purity of public competitions, was beyond his comprehension. He had hoped that the seven invited architects would have condescended to give them some explanation that evening as to why they accepted this position, or whether they were aware that the Official Architect was to be Assessor and collaborator or joint architect as well. He was not aware that they did know it when they accepted that invitation; he had a very great suspicion that they knew nothing of the kind.

THE PRESIDENT: Yes, they knew it; it was in the JOURNAL.

Mr. GIBSON: If that was the case then he considered that they owed the members of the Institute some explanation of expediency or special circumstances, or some reason why in this particular instance they should depart from a regulation which was so clearly worded and so simple, and which was to the interest of the whole architectural profession. He would conclude by only stating that they had heard that at any rate on the 26th March the Council of the Institute in their letter to the L.C.C. were of opinion that there was a well-established rule binding on all members that no Assessor should compete or act as architect for the building the subject of the competition he was assessing. The Council of the Institute had taken a perfectly sane and logical view of the whole matter on the 26th March; and it became the duty of members to support them by carrying, he hoped unanimously, the resolution he proposed, which practically put the Competition on the same footing on which every other competition in this country ought to be put. He believed that if this resolution were published as he proposed, they would have the hearty support of the whole of the members of the Institute; that they would loyally refrain from competing until the Conditions were amended; and that they would do everything they possibly could to show that, as professional men, they valued their honour, they valued the position of the Institute in the architectural world, and they valued the fact that the Institute had done something to safeguard their interests and the interests of architecture.

Professor BERESFORD PITE asked the Chairman's ruling on the point as to whether the resolution could be brought forward. Notice had now been given of a definite resolution which would bind members of the Institute in definite terms. The intention of that motion was to prevent all members of the Institute from competing. He was not discussing whether the motion was advisable or not, but that was what Mr. Gibson intended. Notice of such resolution ought to have been sent to all the members of the Institute. That had not been done. This discussion might have some useful end or not, but he did not think it could end in that resolution—at any rate on the present occasion.

Mr. H. W. WILLS [*A.*] said the motion was simply to affirm a general principle laid down by the Institute, and it was a principle which hardly ought to be called in question. In the face of Clause (*c*) of the requisition there could be nothing out of order in bringing forward the resolution that Mr. Gibson had moved, and which he should be most happy to second.

Mr. WM. WOODWARD said he thoroughly agreed with Professor Pite. This resolution affected 2,000 members, and it was absolutely necessary that notice of it should be sent to every member of the Institute.

Mr. HUBBARD: The effect of this is simply to compel 2,000 members of the Institute to comply with their own Regulations.

Mr. G. A. T. MIDDLETON [*A.*]: There is no doubt that notice ought to be given, for this is a very big motion. It is a prohibitory motion. It is not merely a question of the standing of the profession, but a question of a trade union.

THE PRESIDENT pointed out that by by-law 56 "notice of any motion intended to be submitted to a Business Meeting must be given to the Secretary at least fourteen

days before the date of such meeting." By-law 60, however, which dealt with Special General Meetings, made no mention of any such notice of motion.

Professor PITE said that, according to by-law 60, a Special General Meeting must be called for a specific purpose. The specific purpose was not stated in the notice. The requisition was for a meeting to consider the Conditions and Instructions, and the action taken by the Institute and Council, but it did not specify a prohibitory motion. Could Clause (*c*), which said, "To propose any resolutions which may arise out of the subjects dealt with under Clauses (*a*) and (*b*)," be possibly taken to cover this resolution? The resolution was of so drastic and important a character that he claimed a ruling that would submit it to every member of the Institute. He himself had come to the meeting in ignorance of this resolution, and the vast majority of members must be in the same position. The by-law was explicit, that the specific purpose of the meeting must be stated in the notice convening it.

THE PRESIDENT, after consideration, ruled that the resolution was in order, and invited discussion upon it.

Mr. HENRY T. HARE [*F.*] said he felt some little diffidence in addressing the Meeting on this matter, because he had the honour to be one of the architects who had received the invitation of the County Council to take part in this competition; but to some extent he felt bound to say something. He ought to explain, however, that he had no authority to speak for the other architects who had been invited to compete, though he believed that what he should say as to their views represented very fairly their opinion about these Conditions. Mr. Gibson they all respected most highly; they were all ready to acknowledge that his motives in bringing forward this resolution were entirely, from his point of view, for the benefit of the profession at large. No one who knew Mr. Gibson as he (the speaker) knew him could hold any other opinion. He thought, however, that in this case Mr. Gibson had taken a mistaken view. In the first place it had been stated that no delay had occurred in making this protest against the conditions of the competition. It had been stated that the instructions with regard to the competition were issued late in February, that the Institute protested in March, and that they only received the reply to their protest last week. That really did not quite accurately represent the facts of the case. The County Council published last July a statement to the effect that this competition was to be instituted on certain lines. It gave those lines in exactly the way in which the Conditions were subsequently framed and published. It stated distinctly that the architect to be appointed to carry out this work was to act in collaboration—that was the word used—with the Architect of the County Council. That notification which was public property last July was, he believed he was right in saying, a long time previous to any intimation given to the architects who were subsequently invited to compete; and therefore they had, or ought to have had, knowledge that that very material condition was to be one of the conditions to which they were to submit themselves.

Mr. A. W. S. CROSS [*F.*] asked if in that preliminary notice any intimation was given that the Superintending Architect was also to be the Assessor!

Mr. HARE said that that was another question altogether, which he would deal with afterwards. It simply stated that the Official Architect was to act in collaboration; so that the knowledge of the Official Architect's position was public property from the middle of last year, and no protest was made by anyone against it. Then with regard to the dual position of the Official Architect as one of the Assessors and as collaborating architect, it had been stated that the position was in contravention of the Regulations of the Institute. In the first place, he thought the word "Regulations" too strong a term to use, although he was aware that the paper containing the suggestions of the Institute was headed "Regulations." The document had only been so styled within the last year or so; previous to that it was regarded as suggestions merely, not hard-and-fast rules to be binding in every case. But with regard to this particular clause in the document, that no Assessor should act as architect in the work he was assessing, he thought that all their regulations and suggestions ought to be regarded from a commonsense point of view. They ought not to take the letter without the spirit of the law. As regards this Clause 3, anybody who thought for a moment would see what was the motive which underlay it, and which prompted the putting forward of such a very important suggestion in the conduct of competitions. When the Assessor was appointed in the initiatory stages of a competition he would meet his committee and discuss the thing with them; he would have the ear of the committee all through the conduct of the competition, and they naturally would have considerable confidence in any opinion he put forward and in any advice he gave. He was in a privileged position, and had every opportunity in that position—and anyone who had acted as Assessor would fully appreciate the justice of what he said—if he liked to use it, of influencing the committee in his favour. He could always induce the committee to take his view of anything; and if he were at all influenced by corrupt motives he could with very little trouble induce the committee to place him in the position of architect. That had actually occurred in some cases: the competition and its results had been thrown over altogether, and the Assessor himself had been appointed architect. In other cases he had acted as joint architect; so that there was no question that he was in a position in which he could use his influence to the detriment of the whole of the competitors. That was the reason why this clause was put, and very properly put, into their Regulations for the Conduct of Competitions. In the present case, however, it was stated before the competition was initiated that one of the Assessors was subsequently to collaborate with the successful architect. This position being defined from the very beginning, how was it possible for the Official Architect to use his position to the detriment of any of the competitors? To his mind it was inconceivable, and he thought he was correct in saying that that was the view of the gentlemen, at all events of seven of the gentlemen, who had received the invitation of the County Council to take part in the competition. That was their view as to the dual position of Mr. Riley. As to his position as collaborating architect, apart from his position as Assessor, all he would say was that they would consider themselves very fortunate in having his assistance if they were appointed to carry out the work. There was likely to be some misunderstanding as to the position of the Council of the Institute in respect of the letter which had been written. He had no authority at all from the Council to make the remarks he was going to make about it, but the fact of the Council having written the letter which had been read might give an idea that the Council took up a position equally as strong as the one Mr. Gibson had taken up. That, he believed he might say, was not the case. The Council, he believed, took pretty much the view that the invited competitors took as to Mr. Riley's dual position. The question was discussed at the Council. Some of the members felt that there were certain things in the Instructions which were open to objection; and the Council, being anxious to meet the views of all parties, wrote that letter to the County Council. It was an attempt really to meet the views of all parties. If it had been possible to make some modification in the wording which would have obviated all objection it would have been a very fortunate thing, and they should have congratulated themselves upon it; but, as that had not happened, it seemed to him that it was much too late now for any action to be taken debarring members of the Institute from taking part in this competition. It was now

three or four months since the Instructions were issued, and competitors must be very far advanced in the preparation of their designs. He considered it would be most unreasonable for this Institute, or for anyone, to ask competitors to throw away the labour of months without any adequate reason. There was, at all events, a considerable division of opinion as to whether these Conditions were satisfactory or not; and, in his opinion, it would be most unjust for one section to attempt to impose their will on the other section, having regard to the fact that so much labour must have been already expended on the competition.

Mr. John Slater [*F.*] said he should like before the resolution was put to the vote to try to raise the question to some higher ground or higher footing than seemed to have been considered so far. To him personally the matter had no interest, but he had been for a great many years a member of the Institute, and he had had something to do with the control of its affairs; and he would like the Meeting to consider whether the real *motif* for the existence of the Institute at all was not as laid down in the Charter originally in these words, that its members were to be associated together "for the general advancement of civil architecture, and for promoting and facilitating the acquirement of knowledge of the various arts and sciences connected therewith." That was their original Charter, and he seriously asked the Meeting to consider whether they should not be putting themselves in an extremely false position, whether they should not almost make themselves a laughing-stock, if they attempted to coerce their members in this way on a matter upon which, as Mr. Gibson and Mr. Hare allowed, there were differences of opinion. If they did that they would be lowering the Institute to the basest of trade-union purposes. It was not only the seven gentlemen who had been invited to send in designs, but there were a large number of others who must be preparing designs. How anyone could say that a motion of this kind was to advance architecture, or to be of the slightest use in promoting architecture, he could not conceive. Mr. Gibson said that if they passed this resolution they would have the matter in their own hands. Did anyone believe that if this resolution were passed the County Council would knuckle under to it? If he were the County Council he would say, "Very well; if you do not choose to compete, let our own architect do it." What would be the advantage of that? He was not for a moment suggesting that Mr. Riley could not do it, but he was pointing out that that would be the natural result of such a motion as this. As it had been the policy of the Institute throughout to try to keep the competition on broad lines, and on lines that the Institute suggested, and that had, on the whole, been acceded to by the County Council, to pass a motion like this would be to stultify themselves and negative all that they had done, and do more harm than good. He asked the Meeting most earnestly to consider those points before they passed a resolution of this kind.

Mr. W. E. Riley [*F.*] said he thought the Meeting would agree with him that his position in having to address them that evening after listening to that debate was one which required a good deal of self-restraint. He had not come into the room with any intention of speaking, but there had been so much misconception, and so many vague ideas had been put before the Meeting, that he was convinced he might spend a few minutes profitably to them by giving the facts of the case. He claimed first of all that he deserved the co-operation of members of the Institute, and not their mastership. He was present as a member of the Institute to advocate a proper and a just cause; and if he had to take their mastership it must be a just, and not an unjust and domineering mastership. The mover of this resolution had mentioned the fact that the Institute had first approached the County Council offering advice or assistance in the matter of obtaining designs for the proposed County Hall. The letter from the Institute was dated the 3rd April 1906, and the moment that letter came into his hands he put it before his Committee, with the intention that they should understand the full meaning of the Council's request that the competition should be placed in a proper manner before the public. On the 28th July 1906 *The Builder* gave a general indication of how it was intended that this competition should be placed before the public. He asked them to remember that date—28th July 1906. In the general idea given in *The Builder* of what was intended the word "collaborate" was used. But in the Conditions as issued nothing was said as to his acting as collaborator or "joint architect," and he knew it was not the intention of the County Council to make him joint architect, as seemed to be apprehended. With that before them, he asked them to consider whether this resolution would have any effect at all, or do any good whatever to their cause. There was a strong feeling, perhaps, that he was the author of these Instructions. He might tell them at once that he was not. The Establishment Committee sought what they thought was the best advice they could get, and every clause was drawn up after the fullest consideration. On the 22nd December last year the Institute had on their Library table a full print of these Instructions as issued, the only subsequent alteration being that the time for sending in the designs was afterwards extended. It was extended, they would remember, owing to their own resolution of the 7th January last. There was a minor detail beyond that; but the main point was that the Institute desired the time to be extended. They got their way; but how did they get their way? They got it a good deal by his advocacy of their views when they were not present to speak for themselves. If they passed this resolution what would his position be? Had it not been advertised before the whole world? The Institute Council had approached the County Council; they had not consulted him. Why not have consulted him as to whether he wanted to be an Assessor before recommending him for that position? He did not covet the position of Assessor. It was a very barren honour. When he was appointed one of two Assessors on the Strand Competition in 1900, and after the joint report had been published in 1902, he found, when the subject was referred to in the Institute Journal of 8th November 1902, that his co-operation in that great question was entirely disregarded. In such circumstances he thought that any endeavour to ascribe undue importance to the consequences of his being an Assessor on the County Hall Competition was insincere. He had had no word of acknowledgment although he had striven hard to help the Institute in the matter of the Strand Improvement. That, he would tell them, was where their work lay. London was being built up by the street, by the mile, without effective guidance. That was where they could step in and do good. Were they doing it? He had, single-handed, succeeded in getting the resolution before the County Council to have those who were named in the Assessors' report employed on the Strand Improvement. He had had one letter, he believed, supporting that from the Council of the Institute. Was he entitled to have their co-operation and their assistance? He gave his loyally to the Institute, and he expected theirs. Now, with regard to the County Hall Competition. The Institute Council, first of all, intimated that he ought to be one of the Assessors. They did not know at that time probably that this was intended to be an international competition. That phase of the question had not been touched upon so far. An international competition, it must be remembered, might bring anyone in. The idea was to unearth a genius; and did they suppose that if they unearthed a genius the County Council would allow a possibly unknown architect to go unfettered in fixing for all time the internal economy of the County Council building? With regard to precedent, they had discussed in that room the question of Liverpool. The reason assigned in the Liverpool Competition was that the architect whose design

was selected was too young to carry out the work. There was no limit of age in the County Hall Competition. He had a business committee and a business community to deal with, and they were faced with two facts. One was that there was no limit of age, and another that they might have a man from any country and of any nation. He was in thorough sympathy with the Institute when they in that room on the 7th January expressed a strong opinion that it ought not to be an international competition, but a competition for British architects. But that was a matter upon which he had no voice. He did not believe that one of them thought for a moment that he would act unfairly in this matter. He asked them to realise what would be the effect on his position hereafter of their passing a resolution such as Mr. Gibson had proposed. It would stultify him for ever. At the meeting of the 7th January, when these Instructions were fully public, there was not a single word of criticism on the points now raised. They knew then the dual position he was to occupy; then why not at that time have said at once, "We object to this dual position"? The Instructions were not approved then; and it would have been a simple thing for him to retire from the assessorship, and he would have been quite willing to do so. They all remembered the legend of Milo endeavouring to correct the simple science of the woodman: he found the tree with a wedge in it, and over-confident in his strength he removed the wedge to tear the tree asunder; but the tree closed on his hands and held him until the wolves devoured him. Might not such a Nemesis come upon them? He thought they were in very great danger, if they supported a resolution of this kind, of having any proper representations that they made, and made with good effect, to local authorities so discounted before receiving consideration that they would lose nine-tenths of the influence they possessed at the present time. He asked them in all sincerity not to persevere with this resolution. He asked Mr. Gibson to consider the other side of the case, and to go heartily into the competition.

Professor Beresford Pite appealed to Mr. Gibson to withdraw his resolution. The resolution had not really been considered in its tremendous effect—an effect which, he thought, even Mr. Gibson had not fully measured in his mind—and he could not see, under the circumstances, that the carrying of the resolution would do any good to those who had promoted this discussion. He thought the discussion might have done a great deal of good in clearing from their minds misconceptions which had not been shared by all, but which, as Mr. Hare said frankly and candidly, had been shared by some. Let them be satisfied with that. After Mr. Riley's remarks and his earnest and candid appeal to the objectors for sympathy, his efforts on behalf of fair dealing in this matter, he felt sure, would be received heartily by them. The adoption of a resolution such as had been proposed, he ventured to think, rather hastily, and certainly without full notice, after Mr. Riley's speech would put them in a rather anomalous position. The atmosphere had undoubtedly been cleared to a great extent. He did not think that any of them could feel after this evening that there had been the slightest intention on the part of the County Council to jerrymander the competition. If they looked at it from their point of view the arrangement they had made for their Official Architect to work in conjunction with the successful architect seemed a desirable one. He ventured to say that there was not the slightest hint in these Conditions of any desire by the County Council to rob the successful architect of the full credit of being the architect of the building. He challenged anyone candidly to read these Conditions and say that they were unfair to the architect as designer. There was no hint of conjunction or collaboration in the artistic design. The design was to be the design of the successful architect. That point out of the way, they came to the question of the Assessorship. It was, as Mr. Hare pointed out so lucidly, an empty technicality to plead the Regulations for the conduct of other competitions. If the arbitrator submitted a design the difficulty aimed at by these Regulations was met. In this case there was nothing of the sort. He thought that for anyone who sat down and mastered these most elaborate and difficult schedules to have the advantage of an official to weigh and judge the plans was the best possible assurance that the profession could have of a fair and proper result. He appealed to Mr. Gibson to do them the favour to withdraw a resolution which did not commend itself to members. It would have to be endorsed by a two-thirds majority; then there must be a poll; and it would cause a great amount of discomfort to the whole profession and produce no good result.

Mr. Gibson said that with respect to what Mr. Riley had been good enough to lay before them he had every sympathy. He did not doubt for a moment the integrity and uprightness of Mr. Riley. He was quite sure that any architect entering upon this competition might rely upon his design being judged in an able manner, and that all its points would be carefully weighed and assessed. That, however, was not the point. They proposed to accept one upright, honest man, a man of undoubted integrity, to act in the dual position of an Assessor in a competition and as collaborator, or at all events to assist in carrying out the selected design. He was convinced that by so doing they were opening the way for the same position to be taken up by every borough engineer and architect all over the country. There was not the slightest doubt about it. This would be cited as a precedent. He entirely disagreed with Professor Pite as to the inconvenience and trouble and worry in which the carrying-out of this resolution would involve the Institute. The whole matter had been laid very clearly before the Meeting by both sides. They were entitled to express their opinion upon it. He could assure Mr. Riley and everyone else present that he had no intention of entering into a competition with regard to the County Hall or any other building the conditions of which were not in conformity with the Regulations of the Institute.

The President said he had already drawn Mr. Gibson's attention to the fact that this matter might have been brought forward by the objectors six months ago. In the Journal of the 22nd December the whole thing was clearly stated—the names of the eight invited architects, the terms of the competition, the Assessors, and every other material point. The members of the Council who had signed this requisition had had the opportunity long ago of bringing the matter up in the Council. No doubt they had done so on occasions; but if they felt it was such a serious matter as to warrant the summoning of a meeting of this kind, then they ought to have taken action at the first opportunity after the proposals were made known. He should like to point out that the Institute Regulation against an Assessor acting as architect for the work he was engaged to adjudicate upon was designed to prevent an Assessor subsequently to the determination of a competition being appointed as architect or joint architect. The only competition he knew of where an Assessor was so appointed was that of the Liverpool Cathedral. That case was discussed in that room, and it was subsequently shown that the appointment of a joint architect in that case was a perfectly right and proper arrangement under the circumstances. That case, however, was not on all fours with the present. It was known long ago throughout the whole profession that Mr. Riley was to be consulting architect. It was a mistake to say "joint architect." A joint architect would have to share half the responsibility and have an equal say in the designing of the building. It was perfectly clear in the Instructions that that was not the position the London County Council intended Mr. Riley to hold, and he was perfectly certain that that was not the position Mr. Riley himself intended to hold. When the question of the terms of the competition was being con-

sidered by the Council, with Mr. Belcher in the Chair, he (the speaker) was one of the members of the Council to propose that this should be an open competition. He made that proposition because he wished that the young men should have a chance. There could be no doubt that having Mr. Riley as Consulting Architect to the Council and as Assessor would be of the greatest help to any young architect whose design might be selected, because it was not to be considered that a body like the London County Council would entrust the expenditure of nearly a million of money to a young man, who might lack experience in the carrying-out of buildings. With the Conditions as they now stand a young man would be able to carry out this work with Mr. Riley as consulting architect just as well as if he had associated with him a joint architect sharing half the fees. He thought that the young architects, at any rate, even if their seniors did not take that view, should very seriously consider it. If there were no consulting architect appointed at the present moment—supposing that Mr. Riley withdrew, or the Council withdrew him and left it an open question—the chances were that if a young man's design were selected the work would not be given to him unless he collaborated with men of older experience; and that would mean halving everything, not only the commission—which was not the principal thing to consider—but the credit and honour which the carrying-out of such a building would bring to the architect. With regard to changing the scale of the drawings, he did not think that that matter need have been brought up at all. Personally he preferred to do the one-sixteenth drawings, and he had had some experience in such matters. He should like to join his appeal to Professor Pite's for the withdrawal of the resolution. They ought not to lose sight of the fact that the Institute, as a public body, occupied a position of considerable responsibility. As the representative architectural body of the Empire, it enjoyed the confidence of the Government and of the London County Council, and had been able to exert its influence most beneficially on questions affecting their art. If, however, after having suggested and sanctioned a certain procedure some members of the Council took exception to them and repudiated the action of their colleagues, it would go out to the world that they were a divided body, and the Institute would lose a very great deal of the confidence that the Government and the County Council had been accustomed to repose in them. He therefore made a very strong appeal to Mr. Gibson and his supporters to withdraw their resolution.

The mover and seconder declining to withdraw the resolution,

Mr. Frank Lishman [*A.*] asked if he should be in order in proposing the following as an amendment: "That this Meeting, having heard the remarks of various speakers, including especially those of Mr. Riley, and having regard to the opinion expressed from the Chair, considers that members of the Institute are entitled to take part in this competition under the conditions announced."

The proposal was not seconded.

Mr. A. W. S. Cross [*F.*] said there was one point he should like to mention before the motion was put. During the whole course of the debate not one word had been said as to why in this instance they were departing from the ordinary regulations governing the conduct of architectural competitions.

The President said there must be exceptions to every rule. The London County Hall was an exceptional case altogether, and there was ample justification for treating it in an exceptional manner.

Mr. A. T. Taylor, R.C.A. [*F.*], asked leave to move the following amendment: "That this Institute regrets that the terms of the competition are not satisfactory in every respect; but as a considerable time has elapsed, and many architects have been for some time at work on their designs, the Institute is of opinion that the competition should take its course." A resolution in this sense would record their dissatisfaction with the arrangements, and might possibly meet the views of both sides.

The proposal was not seconded.

Mr. Cross: At the time of the controversy as to Liverpool Cathedral the then President, Sir Aston Webb, distinctly laid it down that such an exceptional thing would never occur again, and here within the short space of three years it has occurred.

Mr. Hare: Mr. Cross, I think, is mistaken in saying that Sir Aston Webb stated that the case would never occur again. The question was discussed in this room, and the conclusion arrived at was that under the circumstances it was justifiable. In the face of that it could hardly have been said that it would never occur again. If the circumstances were the same the result would be the same, and everybody would wish it to be so.

The resolution, having been eventually put from the Chair, was negatived upon a show of hands, the President declaring the numbers to be 29 for the resolution and 50 against.

The Annual Elections.

The results of the elections, with the numbers polled, as reported by the Scrutineers, will be found set out in the Minutes of the Business Meeting last Monday [p. 559], when the Officers, Council, and Standing Committees were declared duly elected as follows:—

The Council.

President.—Thomas Edward Collcutt.

Vice-Presidents.—James Sivewright Gibson; Edwin Thomas Hall; Henry Thomas Hare; Leonard Stokes.

Hon. Secretary.—Alexander Graham, F.S.A.

Members of Council.—Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A.; John James Burnet. A.R.S.A. (Glasgow); Alfred William Stevens Cross, M.A.Cantab.; Edward Guy Dawber; William Flockhart; Ernest George; John Alfred Gotch, F.S.A. (Kettering); Edward Augustus Gruning; Henry Vaughan Lanchester; Edwin Landseer Lutyens; Charles Edward Mallows; Ernest Newton; William Alfred Pite; Andrew Noble Prentice; Halsey Ralph Ricardo; John William Simpson; John Slater, B.A.Lond.; Paul Waterhouse, M.A.Oxon.

Associate Members of Council.—Henry Arthur Crouch; William Curtis Green; Sidney Kyffin Greenslade; Stanley Hinge Hamp.

Representatives of Allied Societies.—Hippolyte Jean Blanc, R.S.A. (Edinburgh Architectural Association); Henry Dare Bryan (Bristol Society of Architects); Harry Sutton Chorley, M.A.Oxon. (Leeds and Yorkshire Architectural Society); John Francis Groves (Cardiff, South Wales, and Monmouthshire Architects' Society); Edmund Kirby (Liverpool Architectural Society); William Mansfield Mitchell, R.H.A. (Royal Institute of the Architects of Ireland); James Milne Monro (Glasgow Institute of Architects); Paul Ogden (Manchester Society of Architects); Arthur Benjamin Plummer (Northern Architectural Association).

Representative of the Architectural Association (London).—Walter Cave.

Standing Committees.

Art.—Fellows: Robert Shekleton Balfour; John James Burnet, A.R.S.A.; Edward Guy Dawber; Ernest George; James Sivewright Gibson; Henry Thomas Hare; Professor William Richard Lethaby; Edward Schroder Prior, M.A.Cantab., F.S.A.; John William Simpson; Paul Waterhouse, M.A.Oxon.—*Associates*: John Anderson; Arthur Thomas Bolton; Thomas Davison; Sidney Kyffin Greenslade; Thomas Geoffry Lucas; Edgar Wood.

Literature.—Fellows: Alfred William Stevens Cross, M.A.Cantab.; John Alfred Gotch, F.S.A.; Edward Schroder Prior, M.A.Cantab., F.S.A.; Halsey Ralph Ricardo; Professor Frederick Moore Simpson; Professor Ravenscroft Elsey Smith; Richard Phenè Spiers, F.S.A.; Hugh Stannus, A.R.C.A.; Charles Harrison Townsend; Paul Waterhouse, M.A.Oxon.—*Associates*: William Curtis Green; John Humphreys Jones, B.A.Lond.; Herbert Passmore; Arthur James Stratton; William Henry Ward, M.A.Cantab.; Percy Leslie Waterhouse, M.A.Cantab.

Practice.—Fellows: William Henry Atkin Berry; Max Clarke; Alfred William Stevens Cross, M.A.Cantab.; George Hubbard, F.S.A.; Joseph Douglass Mathews; Sydney Perks; Herbert Arnold Satchell; Alfred Saxon Snell; Thomas Henry Watson; William Henry White.—*Associates*: Edward Greenop; Edwin Richard Hewitt; Herbert Hardwicke Langston; Horatio Porter, M.A. Cantab.; Thomas Edward Pryce; Augustus William Tanner.

Science.—Fellows: Harry Percy Adams; Thomas William Aldwinckle; Max Clarke; William Dunn; Matt Garbutt; Francis Hooper; Charles Stanley Peach; Herbert Duncan Searles-Wood; Alfred Saxon Snell; Lewis Solomon. — *Associates*: Robert John Angel, M.Inst.C.E.; Edmund John Bennett; Henry William Burrows, F.G.S.; Edwin Richard Hewitt; Ernest William Malpas Wonnacott; Ernest Alexander Young.

The Hon. Auditors are Messrs. Henry Philip Burke Downing [*F.*] and Arthur William Sheppard [*A.*].

The Scrutineers of the elections were Messrs. Arthur H. Reid (*Chairman*), S. D. Adshead, Charles B. Bone, John Cash, Bulkely Creswell, A. Blomfield Jackson, F. W. Marks, Herbert Read, A. H. Ryan-Tenison, Arthur Sykes, Percy B. Tubbs, *Fellows*; Messrs. A. C. Dickie, H. S. East, G. L. Elkington, A. W. Field, Harold Goslett, H. A. Hall, Thomas A. Pole, Herbert Shepherd, C. Wontner Smith, Stanley Towse, *Associates*. Seven hundred and forty-seven envelopes containing balloting papers were returned. The counting of the votes lasted from 10.30 to 6, Friday the 7th. The Scrutineers report that they had to reject for informalities eight papers for Members of Council, and twelve for Associate Members.

Suggested New By-Law authorising Poll to be taken on Requisition of Members.

At the Business General Meeting of the 10th inst., Mr. Herbert W. Wills [*A.*], in accordance with notice, brought up the following resolution—viz.: "That a clause be inserted in the Revised By-laws empowering the taking of a poll on any professional question on the signed requisition of twenty-five members of the Institute."

Mr. Wills read the following remarks:—

I move the resolution standing to my name with the object of supplying a final means of making the Institute more absolutely what it claims to be, the Royal Institute of British Architects. I am very far from underrating the great services rendered to the profession by the long line of distinguished architects who have occupied the Presidential Chair, services in which they have been loyally and fully seconded by the Council, which is yearly elected by the general body. Occasions, however, arise in which the President and Council may not be fully aware of the wishes and wants of the general body, wishes that they would be very willing to give effect to, and wants that they would certainly wish to remedy. It may be urged that any member of this Institute can bring forward any motion in this room, and that the voting on such motions is a satisfactory indication of the general feeling on the matters in question; and to a limited extent this is so. But this leaves out the factor that a great bulk of our members are resident in the provinces, and have frequently neither the time nor opportunity of attending to register their opinions on special points. Some question may crop up on which the provinces feel very keenly, but which only affects us here in a lesser degree, and the result of such a meeting may be decided in one way, whereas a poll of the whole body would indicate a very different feeling. It is a remedy for this state of things that I wish to bring about, and I think this remedy is one which will be beneficial alike to the general body of our members and to the Council itself. Criticism is a good thing in moderation, but possibly one may have too much of it; the Council, while doing its best for the profession, as I believe it always does to the utmost of its power, may yet be on the wrong track, and may be adversely and unreasonably criticised for what is only an error of judgment. My proposal enables the Council to put itself in the position of the clergyman who asks whether any just cause or impediment exists to two people being married, and on receiving no reply concludes the ceremony. If these powers are granted in the new Charter, it will be open to anyone who feels that a certain line ought to be taken on any professional point to get an expression of the wishes of the Institute on the subject. That such power will not be unreasonably or frequently used is amply provided for by my motion. It is practically impossible to get twenty-five signatures to a written requisition on any trivial point: it involves too much trouble and too much time and persuasion to do so. Alternative methods of obtaining the same result have been suggested, one being voting by proxy. While I should be glad to support this, failing the carrying of my resolution, I do not think it is so good or thorough a method as the one I suggest. If voting by proxy were admitted, it would be often possible for the mover of a resolution to obtain a large amount of support by writing a large number of letters to friends or by canvassing, and at the same time those holding opposite views and having an equal number of supporters might fail to prevent the carrying of a resolution against which a larger number of votes could be obtained by similar electioneering methods. My resolution aims at doing away with the necessity or possibility of electioneering. One does not want if a resolution is proposed to be dependent on whipping up support; one would only use the new powers for obtaining a perfectly impartial statement of the opinion of the members of the Institute, an opinion which I hope is, or soon will be, one and the same thing as the opinion of the great majority of the architects of this country. Once such a measure as I have suggested is incorporated in our Charter, there would, I believe, be a much greater feeling of confidence in and interest about the Institute. Power brings with a sense of responsibility, and with that sense of responsibility comes moderation No one of us, whether living here or on the confines of the country, will be without our opportunity of swaying the policy of the Institute in the common interests of all architects, for it will be impossible to use such a poll in the interests of any section of members. And I am convinced that those who belong to the minority on any question will join loyally in supporting the policy of the majority after such a test of strength as I propose, and that the Institute will have an immensely greater power and influence in the future than it has ever possessed in the past. I accordingly move my resolution, "That a clause be inserted in the Revised By-laws empowering the taking of a poll on any professional question on the signed requisition of twenty-five members of the Institute."

Mr. W. G. Wilson [*F.*] seconded the resolution. It was, he said, almost non-controversial in its character, and must appeal to everyone. Its object was to bring their meetings in London more into touch with the provinces; and speaking as a member who for many years was in the provinces he felt that some such means of having their vote recorded was absolutely essential if the Institute was to be made more homogeneous than it was at present. Only one possible objection he thought could be urged against this resolution—viz., that it might be used in a frivolous way, and the Institute be put to a great deal of trouble and expense. That, however, was perfectly safeguarded, inasmuch as the machinery for a poll could not be set in motion except on the requisition of twenty-five members. Anyone who knew anything about the matter would know that to get twenty-five signatures to a movement of this sort not only entailed a good deal of trouble, but it showed that there must be considerable feeling in the matter. The resolution was really more a matter for the provincial members. An Allied Society wishing to bring some matter before the general body of the Institute had not at present the means of doing so in an effective way. They would have to come to London at some expenditure of time and money, and at a great sacrifice of convenience; whereas if they could get up a requisition locally, and have the matter they wished ventilated brought to the test before the whole body of members, the result would be much more satisfactory, and certainly more equitable to all concerned.

The President: This resolution, if carried, would mean the adoption of a new by-law.

Mr. Wills: My proposal is that a new by-law to this effect should be inserted in the proposed Revised By-laws.

The President having read By-law 61—viz.: "The adoption of any new by-law, or the alteration, suspension, or repeal of any existing by-law, may be proposed by the Council or by any twelve Fellows, &c.,"—said that in view of that by-law the resolution could only be brought forward as a recommendation for the Council to consider, as there had been no requisition of twelve Fellows as required by the by-law.

Mr. Wills: But the vote of this Meeting if my resolution be passed will carry with it the fact that the general body considers it advisable.

The President: I do not think this very small Meeting can be said to represent the whole body of the Institute.

Mr. R. J. Angel, M.Inst.C.E. [*A.*], speaking against the resolution, said that the reason for bringing it forward was connected with the resolution Mr. Wills had moved in that room three months ago, to the effect that it was inadvisable in the interests of architecture that public officials should carry out the designing of public buildings. The excuse for presenting the resolution was that some matter of interest to the Allied Societies or to architects in the provinces might be under consideration, and would not receive proper consideration in that room. That, however, was not the reason. The real reason was that if the resolution were passed, and a by-law was the result, a poll would be able to be taken on the subject he had already referred to.

Mr. H. H. Statham [*F.*]: Has the speaker any right to impute motives?

Mr. G. A. T. Middleton [*A.*] said that, speaking on rather broader grounds, it seemed to him that if it were put as a recommendation to the Council it was a very reasonable resolution to pass. It wanted, however, a certain amount of safeguarding. It seemed quite reasonable, as they had the right of appealing to a poll if a motion were carried, that they should have a similar right of appeal to a poll in the case of a motion being rejected. It might be but a very small majority one way or the other. He did not think, however, that they should give the right of appeal to the poll unless the matter in question had been previously discussed in that room. The present safeguard was a very wise one, that there should always be a preliminary discussion before a poll was taken. It was most necessary that all sides should be heard, otherwise they should have a small clique of twenty-five members suddenly pushing something forward, having already arranged amongst themselves a circular to go out putting an *ex parte* case before members, and rushing it through before the other side could possibly be heard. He thought it most essential that there should be something like a reasonable equation between the "fors" and "againsts" before a poll was demanded, and also that the thing should be properly discussed and a report of the discussion issued to those who were called upon to vote. On those grounds, and with those careful safeguards, it seemed to him quite right that they should be able to appeal to the whole of the members in the manner suggested.

The President, replying to a question from Mr. H. Hardwicke Langston [*A.*], said that, as the resolution amounted to a recommendation for a new by-law, Associates would not be able to vote on the question under Clause 28 of the Charter.

The Secretary, replying to a member, said that the approximate cost of a poll was about £16 or £17. There was also the time of the members who would be called upon to act as scrutineers.

Mr. George Elkington [*F.*] asked if there was any objection to the proposal on the part of those in authority. They had heard so far only one side of the question. It would appear that the usual purpose of their meetings was to obtain the opinion and decision of members on questions which came before them, and what was now proposed was an extension of that same purpose. It was, it was stated, desirable to obtain the adhesion of provincial architects to the Institute, but it was not stated what efficient substitute there was at present for the attendance of provincial members at their meetings. It had often been said that the difficulty of getting to their meetings was one of the reasons why men in the farther parts of the country did not see much practical benefit from being members of the Institute. Therefore, unless there was some valid objection to the proposal, although they were only a small meeting that evening, he thought it was a question which the Fellows present, on whom was cast the duty of voting, should give support to without pledging themselves to any detail. If the motion were carried, although it represented only the opinion of a small number of the Fellows, yet, it being the decision of the Meeting, he presumed when it came before the Council the latter would see in what way it should be given practical effect to, with additional safeguards if necessary. He took it that any question of a poll to be issued to members generally would come from the Council, and that any individual members or body of men, however interested in the question they might be, would be prohibited from attempting to influence their professional brethren. The whole matter should come in the same way as if it were impartially put at a meeting. If that could be done he thought it would be a good thing, because anything that stimulated the interest taken in business matters by the profession generally tended to benefit the Institute.

Mr. W. H. D. Caple [*F.*], of Cardiff, said that as one of the provincial members present he should like to add a word or two in support of the resolution. He could assure the Meeting that there were many questions considered by the Institute from time to time upon which the opinion of large numbers of their provincial members were not at all in accord with the decisions arrived at in that room. The present proposal seemed to provide an excellent opportunity for provincial members all over the country to express their opinions on matters of importance. The measure proposed would not be taken except on a matter of vital interest, and on such a matter it would be of the utmost importance to get the widest possible expression of opinion. The provincial members formed a good proportion

of the total membership of the Institute, and they were entitled to the careful consideration of any means whereby an expression of opinion could be obtained on matters of importance. It seemed to him that the resolution before the Meeting provided an excellent opportunity of getting an expression of opinion when a motion was lost as well as when a motion was carried. He was quite sure that if such a recommendation to the Council were adopted, and if the Council in its turn would introduce a new by-law to give effect to the recommendation, they would have done a very great deal indeed to further the interests of the Institute and of the profession as a whole.

THE PRESIDENT said that if the resolution were put as a recommendation to the Council, he thought that it might very properly go forward in that form. He would remind Mr. Caple that the provinces were amply represented on the Council, and also that there were always business meetings when questions of the kind could be brought up. Again, questions of any importance to the profession were always first put before the Allied Societies. If a poll of the whole Institute had to be taken on any special question, they would have to issue, not only the papers for taking a poll, but an account of all that had been said for or against that special question. If a very important point was in question, he did not think it was a very great hardship for the country members to come up to London to vote upon it. Such questions certainly could not arise very often, and the London members would only be too pleased to see their provincial brethren present and voting upon any question that they thought affected them specially as country members. If Mr. Wills would put his resolution that it be a recommendation to the Council to consider it, he should be glad to put it to the Meeting.

Mr. WILLS: That it be a "strong" recommendation.

THE PRESIDENT: I put it in that form then: "That it be a strong recommendation to the Council in considering the revision of the By-laws to insert a clause empowering the taking of a poll on any professional question on the signed requisition of twenty-five members of the Institute."

The vote was then taken by show of hands, Fellows only voting, with the following result: For the motion, 12; against, 4.

THE PRESIDENT: The motion is carried, and the Council will, of course, consider the matter.

Architectural Development of Towns.

With reference to the resolution of Mr. Whitwell Wilson, M.P., in the House of Commons on the subject of the development of towns and their suburbs [JOURNAL, pp. 480–81], the Art Standing Committee have by resolution asked the Council of the Institute to appoint the strongest possible Committee to consider this subject.

Mr. John W. Simpson, Chairman of the Art Committee, has addressed the following letter to the Secretaries R.I.B.A.:—

GENTLEMEN,—With reference to the communication to the Council from the Art Standing Committee on this subject, my Committee have requested me to forward, with their recommendation, the following notes for the further confirmation of the Council.

The preparation of considered architectural schemes for the improvement and extension of cities was already under discussion by the Art Committee before the subject was raised in the House of Commons. The "cheerful acceptance" of Mr. Whitwell's resolution by Mr. John Burns on behalf of the Government, his full admission of the necessity for legislation, and his statement that alternative Bills were already before him "to carry out what is immediately pressing," have, the Committee feel, now rendered the question one which should be brought to the notice of the Council without further delay.

That the preparation of such schemes must involve considerable self-sacrifice on the part of those who undertake it is certain; but it is done in other countries for the public good and the advantage of art. In America plans and sketches illustrating the proposals of the artistic societies in a city are, I understand, prepared by them and presented to the public bodies concerned. The expenses, it would appear, are not very heavy, being mainly for draughtsmen's salaries and printing, the architects and others working gratuitously until and unless the scheme is carried into execution. The object is to arouse the public to interest in the beautifying of their cities and to indicate to the municipal authorities the lines on which improvements should proceed.

I would venture with deference to suggest to the Council that the Committee appointed should not in the first place be too large, and that its immediate purpose should be to consider the propriety of preparing schemes, and the necessary ways and means of doing so. It might, if the Council approve, be given power to add to its number men whose assistance and co-operation are deemed desirable.

With regard to London the task proposed is, of course, stupendous, but the time is ripe for a movement to be made. Sir Aston Webb, R.A., draws my attention to the fact that the Archbishop's speech at the recent Royal Academy Banquet was entirely devoted to this subject. The following passages in a letter to me are so admirably expressed that I have obtained the writer's permission to quote them in these notes for the Council.

"I can imagine," says Sir Aston Webb, "no more patriotic or magnificent task for the Institute to undertake, with the co-operation of kindred Societies, such as the Royal Academy, the Society of Arts, the Architectural Association, and others, than the preparation of a scheme along which the expansion and adornment of London may run. . . . I believe it would be possible with the hearty co-operation of many members to produce a scheme which would compel attention and ensure that at any rate the alterations and expansion of London in the future shall proceed on some definite and recognised scheme. There is no body more fitted for this task than the Royal Institute of British Architects, and it would be a splendid thing if after spending so much time on our own internal affairs we were now to devote some time to preparing a scheme for the improvement of the capital of our Great Empire."

Further on he speaks of "a great collective effort, led by the Royal Institute of British Architects,

endorsed by the whole artistic world in England if you will, and formally presented, as their contribution towards the beautification of London, to the Government and other authorities who hold the fate of future London in their hands."—I have the honour to remain, gentlemen, your obedient servant,

JOHN W. SIMPSON,
Chairman, Art Standing Committee.

Status of District Surveyors.

The following letter has been received from the London County Council with regard to the status of district surveyors for London :—

7th June 1907.

SIR,—In reply to your letter of the 30th ult. inquiring what action has been taken by the Building Act Committee of the Council as a result of the interview which the deputation from the Royal Institute of British Architects had with the Committee on 22nd April 1907, I am directed to state that the Committee do not see their way to recommending the Council to depart from its existing policy with regard to the appointment of district surveyors under the London Building Act, 1894, or to delaying further the filling up of the vacancies. In these circumstances, advertisements have been issued inviting applications for appointments on the conditions set out in the Council's standing orders, and the applications received will be considered in the course of next week.—I am, Sir, your obedient servant,

G. L. GOMME,
Clerk of the Council.

L.C.C. School of Building : Professor Pite's Lectures.

The series of six lectures on "The Ancient and Modern Architecture of London" now in course of delivery by Professor Beresford Pite [*F.*] at the L.C.C. School of Building, Ferndale Road, Brixton, form a concluding course to an annual series of Architectural History studies, and are arranged to follow the annual architectural examinations of the Board of Education. The lectures are open to all, and are largely attended. The following is the syllabus of the course :—

I. Westminster and the Abbey (delivered 23rd May).

II. Mediæval London—The Temple Church ; St. Bartholomew's, Smithfield ; Southwark Cathedral ; the Tower, &c. (30th May).

III. The Renaissance Churches of London, by Wren and his successors (6th June).

IV. Classical London — Somerset House ; Waterloo Bridge ; The National Gallery ; Euston Station, &c. (13th June).

V. (To be delivered 20th June) : The Gothic Revival—Houses of Parliament ; Law Courts ; Modern Churches.

VI. (To be delivered 27th June) : Recent Developments —Queen Anne Movement ; Original Style and Reaction ; Buildings now in Progress.

The subject of the Professor's annual July course of lectures for past students and teachers is "The Renaissance Monuments in the Victoria and Albert Museum."

The Assuan Dam and Egyptian Antiquities.

The Society of Antiquaries publishes the report received from its representative in Egypt, Mr. Somers Clarke, with reference to the submersion of the Nile Valley and the measures to be taken by the Egyptian Government to minimise the danger which threatens the temples and remains of other monuments of architectural and archæological interest in which that district abounds. Mr. Somers Clarke says :—

In January last I wrote from Egypt suggesting that the Society of Antiquaries should formulate a resolution and communicate it to the Egyptian Government in relation to the destruction which would overwhelm the antiquities in Nubia if the dam at Assuan be raised 23 feet above the present level ; and to the undertaking which the Egyptian Government had given that the said antiquities should receive every consideration that was possible.

It cannot fail to interest the Fellows of the Society to know that our representations have not been in vain, and that the care already taken to maintain the remains on the island of Philæ is to be extended to those temples and other places of archæological and architectural interest which will be submerged when the enlarged reservoir is full.

In *The Times* of April 23 some extracts were given from a Parliamentary paper, known as "Egypt, No. 2, Despatch from the Earl of Cromer respecting the water supply of Egypt."

In justice to the Government of Egypt, it should be stated that these extracts do not by any means give an adequate account of the liberal and enlightened spirit in which the difficulties of the case are being met. Indeed, it might be supposed that around Philæ alone was the fresh work of investigation to be centred. As a matter of fact, in order to avoid, if possible, the submersion of the antiquities, all parts of the valley between Assuan on the north and Khartum on the south were carefully examined by a commission, especially appointed for that purpose ; the geological formation was studied, and the conformation of the valley observed with regard to the capacity (*a*) for the storage of a large body of water, (*b*) economy of construction, (*c*) materials at hand for such construction, (*d*) safety.

Having regard to the quantity of water that can be impounded with a wall of a given height, it is now proved that no place offers such conveniences as Assuan. Not less than £14,000 was voted for the investigation and necessary survey.

That which especially interests us is the following question : What steps will the Egyptian Government take to examine, survey, and to preserve, and, finally, to give to the world the results obtained ? We must bear in mind that not only archæology and architecture will suffer, but also ethnology, botany, and, indeed, nearly all kindred sciences.

The swamping of any part of the Nile Valley is, for us, its destruction.

The survey of that part of the valley which will be submerged has, to a considerable extent, been initiated during the examination already referred to.

An archæological survey is to be taken in hand, no effort being spared to render this as complete and thorough as possible. In this survey will be included all temple and town sites, cemeteries, and all other indications of ancient civilisation. Plans of these will be prepared to a large scale.

Copies will be made of all inscriptions, whether on walls or rocks, beginning with those which will be first

submerged. The ancient cemeteries, &c., will be excavated and everything will be recorded.

The temples and other ancient buildings that can possibly be affected by the increased level of the water in the reservoir will be underpinned, fortified, and at the same time measured and drawn.

Lastly, the result of all investigations will be published to the world.

The sustentation of the temples will be undertaken by the Department of Antiquities, under M. Maspero. The rest of the work is placed in charge of Captain Lyons, R.E. Those who have the pleasure of knowing this gentleman are well aware of the admirable method, care, and thoroughness which he brings to bear on every work he undertakes.

The organisation of the great work is already begun. The Egyptian Government has voted £E 60,000 in order that it may be carried out in its integrity. We may be glad that the suggestion for pulling down and re-erecting on another site part of the ruins at Philæ has not been entertained.

Sir Aston Webb, R.A., at Cambridge.

Sir Aston Webb chose for the subject of his Rede Lecture, which was delivered in the Senate House at Cambridge last Saturday, "The Art of Architecture, and the Training required to practise it." Sir Aston pointed out that Architecture, though the mother of the Fine Arts, was yet the most neglected. To be satisfying, Architecture must be the indigenous expression of the people; and there was a present desire to discard archæological methods, and start again with simple forms, thus following the example of Painting and Sculpture. A more elaborate system of training the architect was required now than formerly, owing to the fact that our traditions had been lost, and that buildings, both in their construction and arrangement, were more complicated than formerly. The modern training of an architect must include school and practical work; but before this he should have had a good general education, if possible at a public school and university. The lecturer urged that an understanding should be come to as to the part the various educational agencies should play in the training of an architect. The cause was a great one, for, with Literature, Architecture was the most permanent record of a nation's life. For some years now a rustling of the dry bones of Architecture had been heard, and a demand had arisen for a thorough reconsideration of our system, or want of system, in the training of architects. The lecturer regarded it as of the greatest moment that there should be a conference to determine the part which each of the educational bodies concerned were to play in the training of an architect, and he believed the great Universities could do much to help them.

The late Julius Alfred Chatwin [F.].

Mr. J. A. Chatwin, of Birmingham, *Fellow*, elected 1863, died on the 6th inst. in his seventy-eighth year. Mr. Chatwin was born at Birmingham, was educated at King Edward's School, and matriculated at London University. His architectural education began in the office of Messrs. Branson & Gwyther, building contractors; but in 1851 he was articled to Sir Charles Barry, whom he assisted in the preparation of the drawings for the House of Lords. At this period Mr. Chatwin attended the evening classes of the first Schools of Design originated by the Prince Consort and held at the old Royal Academy rooms in Somerset House. On the termination of his articles he commenced practice in Birmingham. He early established a reputation for ecclesiastical work. He was architect of the new Church of St. Martin, Birmingham; restored and enlarged Aston Church; designed the chancel to St. Philip's, and afterwards acted as architect in connection with the alterations required to adapt that church as the cathedral church. He rebuilt or restored St. Augustine's, Edgbaston; the Catholic Apostolic Church, Spring Hill; St. Mary's, Acock's Green; St. Philip's, Knowle; St. Mary's, Warwick; St. Mary's, Kidderminster; Penkridge Parish Church, and many other churches. He enlarged St. George's, Edgbaston; and restored Edgbaston Old Church and Handsworth Parish Church. Of secular buildings he designed and carried out the Great Western Hotel in Colman Row; Lloyd's Bank in Lombard Street, London, and numerous provincial branches of that bank; the Wolverhampton Art Gallery, &c. He was architect to the Governors of King Edward's Foundation, and designed various grammar schools, &c.

Mr. Philip B. Chatwin, who was elected Fellow of the Institute last Monday, is a son of the deceased Fellow, and had been associated in partnership with him for several years.

REVIEWS.

PRINCIPLES OF DESIGN.

The Principles of Architectural Design. By Percy L. Marks, Author of "The Principles of Planning," 8o. Lond. 1907. *Price* 10s. 6d. *net.* [*Swan Sonnenschein & Co., 25 High Street, Bloomsbury.*]

It would, perhaps, be too much to expect of the writer of this book that he should have any new discovery of principle to enunciate; but what may with reason be looked for by a reading public in a work of so ambitious a title will without doubt be some added clearness of demonstration, some more helpful and concrete application of principles already established, which shall enable the student more easily to bring his own intuitions into tangible form.

To every architectural student interested in his art there arrives, sooner or later, an intellectual apprehension of certain philosophic principles which underlie good design; but to each one the revelation is limited in the first place by his own mental capacity or "personal equation," in the second place by an absence of the necessary links

in his consciousness by which he can transform the ideal into the actual and crystallise his intuitions into practical form. This power, which is the architect's desideratum, must come as the result of effort and experience; for it is experience alone which can truly vitalise these principles to him, making them living and active in his consciousness.

To convey to the student's mind any real or vital perception of architectural principle, such as can in any sufficient degree take the place of the missing factor of practical experience, is no easy task, and to successfully essay this must demand, in the first place, on the part of the author of a work of this kind an adequate grasp of the genuine philosophic bases of design, and a full power to apply them in a lucid and convincing manner. Much, for this purpose, would depend upon the nature of the applications given. A wide and catholic experience of his own in architectural practice would likewise be essential if the writer is to offer that certain and practical help which the reader will be seeking.

But what have we here? The first glance within the cover, with its high-sounding title, reveals a list of the qualities which are involved in the make-up of every architectural work: these are the author's principles. Next follow chapters in which these are in turn discussed, and the author elaborates his views upon them with homely applications.

Under the head of "Expression," "Emphasis of Plan," "Scale," and "Economy," the reader is instructed (very properly, no doubt) to make a building bespeak its purpose, and is taught, for instance, how to recognise a school building when he sees it—nay, more, how to differentiate between a private school and one that is rate-supported.

Contrary to anticipation, we are told that it is in the latter that we should strive for a "plain, serviceable structure."

From schools we are taken to warehouses, and here points of contrast are offered for the uninitiated, as, *e.g.*, "a factory would be even more simply treated than a Board school: it would have a greater number of windows proportionately, and they would be disposed symmetrically for economy and convenience; by preference they would be iron casements (a Board school might have sash-windows)," &c.

Westminster Palace Hotel and the Market House, Bolton, are illustrated as "instances of successful expression," while the use of the classic type connoting a sacred temple for the purpose of a secular hall, such as St. George's Hall, Liverpool, is reprobated. A glance at some of the woodcuts inspires an heretic doubt as to whether the virtuous course of candid expression advised by the author is really its own reward. Certainly we may agree that the chaste front of the Vestry Hall of Paddington (fig. 9) is more to be desired than the "inexpressive" substitute designed by the author (fig. 10), which is like nothing on earth. But if the elevation of a villa given in fig. 12 is to be regarded as a successful expression of the plan, we may pray that the plan in question may not be adopted in our generation.

In fig. 13 is, again, the author's "inexpressive" substitute This not merely fails to express the plan, but it fails also to express rationality in construction, inasmuch as a straight roof is placed over the whole front, oblivious of all differences in projection, which, as the plan shows, are important. Consequently the "inexpressive" roof overhangs the front wall at one end by eight feet or so!

Under "Economy" a façade is offered (fig. 14) for a group of terrace houses in London. The name of the architect is (perhaps fortunately) unknown, so that he cannot suffer the painful immortality which so many others are called upon to endure in this work. Incidentally, it is interesting to note that the façade "allows much to be said in its favour." * A concluding word about "Economy" shows how the author knows how to unbend from his consideration of the abstract, and it must be with gratitude for his condescension that the student will accept the following:—

"Economy is often obtained by the exercise of the architect's up-to-date knowledge of goods on the market. It may be a useful hint to advocate personal interviews with all travellers and the careful perusal (not necessarily an intimate knowledge) of the trade catalogues forwarded."

In his chapter upon the "Consideration of Roofs and Sections," Mr. Marks warns his readers not to make their roofs of a pitch different from their gables, and, if they adopt parapets, by no means to make them so high that they look like a second storey; for, he tells us, "such an expedient as that adopted by Sir Christopher Wren at St. Paul's Cathedral is to be condemned utterly."

It is comforting to reflect that the opportunity of repeating such an error will probably be lacking to most young architects.

Next a plan is offered, with large blocks or pavilions projecting from the angles of a square, and a diagram is given showing the ill-effect of a pyramid roof dumped over the whole—an impossibility, by the way, having regard to the plan—but we are solemnly told that this (fig. 18) would be æsthetically incorrect and wanting in emphasis. As to the want of emphasis, especially about the eaves, there might be two opinions.

In the chapter on Proportion, Balance, and Symmetry—headed by a singularly disagreeable illustration—we are treated to lucubrations about the

* Plate VIII. is given as an instance of the contention that economy is not necessarily productive of poverty of design. In it are shown two pairs of semi-detached villas: the pair on the right-hand, so far from giving point to the author's contention, present perhaps as glaring an instance of crudity of design, and the fatal effect of municipal by-laws in regard to party-walls, as could be found in a complete tour of the London suburbs.

animal figure, and a good deal of quite inconclusive reference to the numerical bases of proportion, a recital of Gwilt's and Pugin's principles or rules being added to give substance to the chapter.

As an illustration of "want of balance" the same hideous villa shown in fig. 12 is again put forward in fig. 27, with a slight exchange of features; but a comparison of the two conveys little, as they are both impossible in their ugliness.

In the following chapter the old, old theme of "unity with variety" is trotted out. The Natural History Museum is illustrated as a fine example of the union of these principles. A long extract from the pages of a bygone number of the *Architect* provides the author with a large proportion of his material.

Two plates are given illustrating the original and amended designs for a "small country-house" by the author (Plates XI. and XII.), in regard to which we are told that, whereas "the first, though well-balanced, lacks unity of design," the second "is free from the defects shown in the former."

There is certainly enough and to spare of the principles of variety, even in the amended design, for a more extraordinary medley of features was surely never seen than is visible in this fussy and pretentious pile, which combines the high-pitched roofs of the French château with the arabesque of Flanders, chimney breasts ending, not in stacks, but in pedestals capped, well below the roofs, by Greek pediments, with Italian arcades to the loggia and pilaster buttresses having pinnacles of Gothic form, to set off the angles of the building!

On page 69 the author enters into the question of developing a design, and offers first, as the *corpus vile* for his experiment, a "severely practical elevation" (fig. 37), which he proceeds to elaborate in fig. 38, destroying in the process its one dubious merit, that of simplicity, and offering in exchange an effect entirely unsightly and disproportionate.

In fig. 41 this is "more fully developed" into the most hopeless piece of architectural vulgarity which could well be conceived.

The chapter following, pedantically entitled "fenestration and portalage," consists of nothing more than architectural "small-talk," and this applies to most of the remainder. The large plates of diagrams of windows, doors, &c., are simply an *omnium gatherum* of all sorts and kinds; on the same page are domestic, commercial, and ecclesiastical windows, jumbled together without order or classification, a traceried light from Canterbury Cathedral set side by side with a modern sash-window of the speculative builder's type, &c., the whole being a totally unmeaning collection, without relevance to the text.*

The illustrations throughout the book are inept, the draughtsmanship slovenly and clumsy, except where, in a few cases, the drawings are borrowed.

Pages 108-122 are taken up with lists of "Signs and Symbols" for use in architectural ornament, among which the author thinks it worth while to offer such instances as:

Balls: three golden .	Pawnbroker (illustrated).
Black (pigment) . .	Mourning.
Combs	Hairdresser, &c.
Cow	Dairies.
Flag (stars and stripes) .	United States.
&c., &c.	

The symbols of the various saints make useful filling, in extended order, for two pages.

The whole of Plate XXIII. (double page) is devoted to illustrations of symbols, among which we observe such recondite instances as the Royal Arms, the English halfpenny, the florin, the Union Jack, &c.

It were profitless as well as tedious to pursue further the review of a work which it is scarcely possible to criticise seriously. Chapter follows chapter of wordy and windy talk—"wise saws and modern instances"—the setting-up of the proverbial argumentative "man of straw" and the knocking of him down again. Enough has been said of a work whose futility is in very slight measure redeemed by the rare occurrence in its pages of some hints of minor expedience and suggestions which concern the planning and fitting-up of rooms—a domain in which the author is perhaps more at home than in the high region of architectural principles.—FREDK. BLIGH BOND.

* The author explains their insertion (page 95) on the ground that "an inch of illustration is often as valuable as a yard of text."

CROSBY HALL.

THE threatened demolition of Crosby Hall fills us with the spirit of unrest. A few notes, perhaps, at this time will not be out of place.

This is not the first time the Hall has passed through troublous times. It barely escaped the Great Fire of 1666, and another which took place in 1672 destroyed a large part of the house; but happily the Hall escaped on both occasions without material injury.

The interest of Crosby Hall is historical as well as architectural. It was built by Sir John Crosby, or Crosbie, grocer, in 1466, on land leased from Saint Helen's Nunnery, which adjoined the church. The doorway to the Nunnery can still be seen on the north side of the church. Sir John Crosby was one of the sheriffs of the City and an alderman in the year 1470: he was knighted by Edward IV. in 1471. Sir John also held the office of Mayor of the Staple of Calais, was a representative in Parliament for the City in the year 1461, and was Warden of his Company. He never attained the dignity of Lord Mayor, and died in the year 1475. He was buried in St. Helen's Church, and a fine monument to him and his lady is raised there.

In 1483 the Hall was occupied by Richard III.,

and it is twice mentioned by Shakespeare in his *Richard III.*

Sir John Moore, the author of *Utopia*, lived here about 1518. Later the property passed by purchase to Alderman William Bond (died 1576), a merchant adventurer, and, according to the inscription on his tomb in St. Helen's, "the most famous in his age." At this time, and later, it seems to have been the custom to lodge the ambassadors here. The Spanish and the Danish Ambassadors were sumptuously lodged in Crosby Place. The Duc de Sully was here in 1594, the Duc de Boron in 1601, and the Russian Ambassador in 1618.

In 1594 Sir John Spencer, an ancestor of the Marquis of Northampton, lived at the Hall during his mayoralty, and a beautiful monument to his memory is to be seen in St. Helen's Church. Shakespeare was living close by in 1598, and was rated in the parish books. The Hall was afterwards the residence of Spencer, Earl of Northampton. In 1638 it was "held by the East India Company and valued at £100 per annum." During the Great Rebellion it was occupied by Sir John Langham, and for a while Royalist prisoners were kept there in custody, Sir Kenelm Digby being one of these.

In 1672 the Hall was converted into a Nonconformist meeting-house, and continued to be so used for about a century. From 1810 to 1831 it was leased to a firm of packers, who divided it into floors and greatly damaged the building. On the lease running out public attention was roused, a fund was raised, and the interior was carefully restored and reopened by the Lord Mayor, Alderman W. J. Copeland, M.P., in July 1842.

In 1842 the Hall was leased to the Crosby Hall Literary Institute; but this came to an end in 1860, and for seven years the old Hall served as a wine merchant's warehouse. Since 1868 it has been a restaurant.

The matchless open roof is decidedly one of the finest specimens of timber work in existence. The Hall possesses a beautiful oriel window. There are also considerable brick cellars.

Is it not time that the Government took over custody of our ancient buildings? It can hardly be possible that the City authorities will allow such a unique building to be demolished. Would it not make an admirable museum for London treasures now somewhat crowded in the Guildhall?—or perhaps our City Companies which have no hall of their own might combine and save for all time this grand old merchant's town-house of the fifteenth century. W. ARTHUR WEBB [*A.*].

*** *The Builder* of last week, in a note on Crosby Hall, says that the gabled front in the main street is modern work, having been built, it is believed, by Wilkinson; the terra-cotta figure of Sir John Crosby by Nixon, and executed by Messrs. Doulton, was set up about seventy years ago. The coloured glass in the oriel of the great hall is by Thomas Willement, who presented it at the time (1836–42) of the restoration of the fabric by Blore. In 1816 the owner removed nearly all the decoration of the council-chamber to his dairy at Fawley Court, Bucks; the finely coved ceiling, with the roof and louvre, became the property of Mr. Yarnold, of Great St. Helen's, and at the sale of his collection in 1825 those relics were bought by Cottingham for his museum in Waterloo Road, Lambeth. The inner roof of the great hall is an elaborate specimen of timber work of the period (1466–75). Ornamented pendants hang from the points of intersection of low-pointed arches, the spandrels being pierced with trefoil-headed openings. The principal timbers are carved with flowers and foliage in a hollow, and the whole springs from octangular stone corbels on the piers between the windows. The oriel of the hall is vaulted in stone and beautifully groined, having ribs that spring from angle pillars with bosses and foliage at the points of intersection.

It is stated that pressure is being brought to bear on the London County Council to take some action to save the building. This the Council can do under its General Powers Act of 1898, which authorises the Council to purchase buildings and places of historical interest, or to undertake or contribute towards the cost of their preservation.—ED.

MINUTES. XVI.

At the Fifteenth General Meeting (Business) of the Session 1906–07, held Monday, 10th June 1907, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair; 16 Fellows (including 5 members of the Council), 17 Associates (including 1 member of the Council), the Minutes of the Special General Meeting held Tuesday, 28th May [p. 512], were taken as read and signed as correct.

The Hon. Secretary announced the decease of Julius Alfred Chatwin (Birmingham), *Fellow*.

The Hon. Secretary drew attention to a list of works recently presented to the Library [see *Supplement*], and proposed a vote of thanks to the donors, which was passed by acclamation.

The Secretary announced the results of the polling for the election of the Council and Standing Committees for the official year 1907–8 as reported by the Scrutineers—viz.

PRESIDENT.—Thomas E. Collcutt [*unopposed*].

VICE-PRESIDENTS.—James S. Gibson, Edwin T. Hall, Henry T. Hare, Leonard Stokes [*unopposed*].

HONORARY SECRETARY.—Alexander Graham [*unopposed*].

MEMBERS OF COUNCIL (18).

Elected: E. Guy Dawber, 557 votes; Ernest Newton, 547; Ernest George, 536; Reginald Blomfield, 524; John Slater, 506; A. N. Prentice, 490; J. J. Burnet, 483; J. A. Gotch, 479; H. V. Lanchester, 475; John W. Simpson, 454; A. W. S. Cross, 446; Paul Waterhouse, 439; E. A. Gruning, 433; E. Lutyens, 426; W. A. Pite, 420; Halsey Ricardo, 420; C. E. Mallows, 401; Wm. Flockhart, 394.

Not elected: G. H. Fellowes Prynne, 385 votes; W. D. Caröe, 382; George Hubbard, 369; R. S. Balfour, 359; Sir A. Brumwell Thomas, 339; Maurice B. Adams, 300; Edmund Wimperis, 274; Temple Moore, 269; W. A. Forsyth, 261; W. H. Atkin Berry, 256; R. Selden Wornum, 234; A. R. Jemmett, 123.

ASSOCIATE MEMBERS OF COUNCIL (4).

Elected: Sidney K. Greenslade, 486 votes; H. A. Crouch, 415; W. Curtis Green, 370; Stanley Hamp, 307.

Not elected: H. W. Wills, 303 votes; J. Humphreys Jones, 242; C. E. Hutchinson, 216; K. Gammell, 146; Frank Lishman, 113.

REPRESENTATIVES OF ALLIED SOCIETIES (9).

Elected: Edmund Kirby (Liverpool), 557 votes; H. D. Bryan (Bristol), 549; H. S. Chorley (Leeds and Yorkshire), 543; W. M. Mitchell (Ireland), 524; Hippolyte J. Blanc (Edinburgh), 517; J. M. Monro (Glasgow), 498; Paul Ogden (Manchester), 485; A. B. Plummer (Northern), 449; J. F. Groves (Cardiff), 379.

Not elected: Howard H. Thomson (Leicester), 371 votes; W. Carter Fenton (Sheffield), 366; J. Donald Mills (Dundee), 328.

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION.—Walter Cave (*unopposed*).

HON. AUDITORS.—H. P. Burke-Downing [*F.*]; A. W. Sheppard [*A.*] (*unopposed*).

ART STANDING COMMITTEE.

Fellows (10).—*Elected*: Ernest George, 547 votes; H. T. Hare, 540; E. Guy Dawber, 509; J. S. Gibson, 468; E. S. Prior, 466; W. R. Lethaby, 465; J. J. Burnet, 437; John W. Simpson, 417; R. S. Balfour, 380; Paul Waterhouse, 380.

Not elected: William Flockhart, 379 votes; E. A. Rickards, 377; J. Macvicar Anderson, 374; W. D. Caröe, 316; W. A. Forsyth, 315; W. G. Wilson, 113.

Associates (6).—*Elected*: S. K. Greenslade, 536 votes; T. G. Lucas, 485; A. T. Bolton, 403; T. Davison, 391; J. Anderson, 388; Edgar Wood, 386.

Not elected: Stanley Hamp, 369 votes; W. J. Tapper, 354; S. Warwick, 306.

LITERATURE STANDING COMMITTEE.

Fellows (10).—*Elected*: R. P. Spiers, 526 votes; J. A. Gotch, 514; Professor F. M. Simpson, 475; Paul Waterhouse, 442; E. S. Prior, 438; Hugh Stannus, 430; A. W. S. Cross, 382; Halsey Ricardo, 374; Professor R. Elsey Smith, 374; C. Harrison Townsend, 333.

Not elected: P. S. Worthington, 311 votes; John Bilson, 290; G. H. Fellowes Prynne, 288; A. B. Jackson, 247; W. A. Forsyth, 246; Henri Favarger, 211; Francis Hooper, 193; H. A. Satchell, 103; A. T. Taylor, 92; Harry Sirr, 77.

Associates (6).—*Elected*: W. H. Ward, 512 votes; P. L. Waterhouse, 486; W. Curtis Green, 426; J. Humphreys Jones, 418; A. J. Stratton, 376; H. Passmore, 330.

Not elected: Frank Lishman, 266 votes; F. Chatterton, 224; B. Walker, 193; C. E. Sayer, 187.

PRACTICE STANDING COMMITTEE.

Fellows (10).—*Elected*: Max Clarke, 490 votes; A. Saxon Snell, 480; T. H. Watson, 474; W. H. Atkin Berry, 474; A. W. S. Cross, 474; George Hubbard, 472; J. Douglass Mathews, 462; W. H. White, 430; Sydney Perks, 392; H. A. Satchell, 380.

Not elected: John Murray, 377 votes; Ernest Flint, 362; Arthur Crow, 316; Charles Reilly, 308; A. H. Kersey, 260.

Associates (6).—*Elected*: A. W. Tanner, 497 votes; Horatio Porter, 488; T. E. Pryce, 463; E. R. Hewitt, 445; Edward Greenop, 434; H. H. Langston, 417.

Not elected: W. C. Waymouth, 404; R. S. Wilkinson, 395.

SCIENCE STANDING COMMITTEE.

Fellows (10).—*Elected*: H. D. Searles-Wood, 499 votes; Max Clarke, 437; H. Percy Adams, 437; C. Stanley Peach, 407; A. Saxon Snell, 402; Matt. Garbutt, 387; Lewis Solomon, 360; Wm. Dunn, 357; T. W. Aldwinckle, 356; Francis Hooper, 346.

Not elected.—Bernard Dicksee, 322 votes; Sydney Perks, 322; Ernest Flint, 287; G. Hornblower, 258; W. E. V. Crompton, 247; A. J. Gale, 231; A. W. Moore, 203; F. Hammond, 169; W. Pywell, 122.

Associates (6).—*Elected*: H. W. Burrows, 566 votes; R. J. Angel, 534; E. R. Hewitt, 516; E. J. Bennett, 493; E. W. M. Wonnacott, 485; E. A. Young, 467.

Not elected.—W. Jaques, 437.

The President declared the Officers, Council, and Committees duly elected in accordance with the Scrutineers' Report; and a vote of thanks to the Scrutineers for their services was passed by acclamation.

The following candidates for membership were elected by show of hands under By-law 9:—

AS FELLOWS (20)

OTIS DUDLEY BLACK (Liverpool).
ALBERT THOMAS BUTLER (Cradley Heath).
SIDNEY BURGOYNE CAULFIELD.
PHILIP BOUGHTON CHATWIN (Birmingham).
PERCY HEYLYN CURREY (Derby).
FRANK BROOKHOUSE DUNKERLEY [*A.*] (Manchester).
NICHOLAS FITZSIMONS [*A.*] (Belfast).
DAVID THEODORE FYFE.
LESLIE WILLIAM GREEN [*A.*].
JOHN HARTREE (Hereford).
HUGH TAYLOR DECIMUS HEDLEY (Sunderland).
WILLIAM MURTHWAIT HOW.
PHILIP MAINWARING JOHNSTON.
WALTER SCOTT-DEAKIN (Shrewsbury).
WILLIE SWINTON SKINNER (Bristol).
WILLIAM STEWART.
HENRY TANNER, JUN. [*A.*].
JOHN ALICK THOMAS.
HERBERT TOOLEY [*A.*].
ROBERT MAGILL YOUNG, B.A. (Belfast).

AS ASSOCIATES (5).

THOMAS CHARLES AGUTTER [*Qualified* 1892] (Ipswich).
SAMUEL CHARLES BRITTINGHAM [*Qualified Colonial Exam.* 1906] (Melbourne, Australia).
WALTER HOOKER [*Qualified* 1886].
KENNETH GUSCOTTE REA [*Qual. Colonial Exam.* 1906] (Montreal, Canada).
STANLEY JOHN WEARING [*Probationer* 1903, *Student* 1905, *Qualified* 1906] (Leicester).

Mr. Herbert W. Wills [*A.*], in accordance with notice, moved that a clause be inserted in the Revised By-laws empowering the taking of a poll on any professional question on the signed requisition of twenty-five members of the Institute.

Mr. W. G. Wilson [*F.*] having seconded the resolution, the President pointed out that, under By-law 61, the adoption of a new by-law must be proposed by the Council or by twelve Fellows, and that therefore the resolution could only take the form of a recommendation to the Council to consider the advisability of introducing a new by-law for the purpose suggested.

The resolution having been discussed, the President's proposal that it should go to the Council as a recommendation from that Meeting was agreed to, and the motion was put from the Chair in the following form: "That it be a strong recommendation to the Council in considering the revision of the By-laws to insert a clause empowering the taking of a poll on any professional question on the signed requisition of twenty-five members of the Institute."

Upon a show of hands, Fellows only voting as provided by Clause 28 of the Charter, the motion was carried—12 voting for and 4 against it.

The proceedings then closed, and the Meeting separated at 9.15 p.m.

Yours very sincerely
John Belcher

JOHN BELCHER, A.R.A., PAST PRESIDENT R.I.B.A.
ROYAL GOLD MEDALLIST 1907.

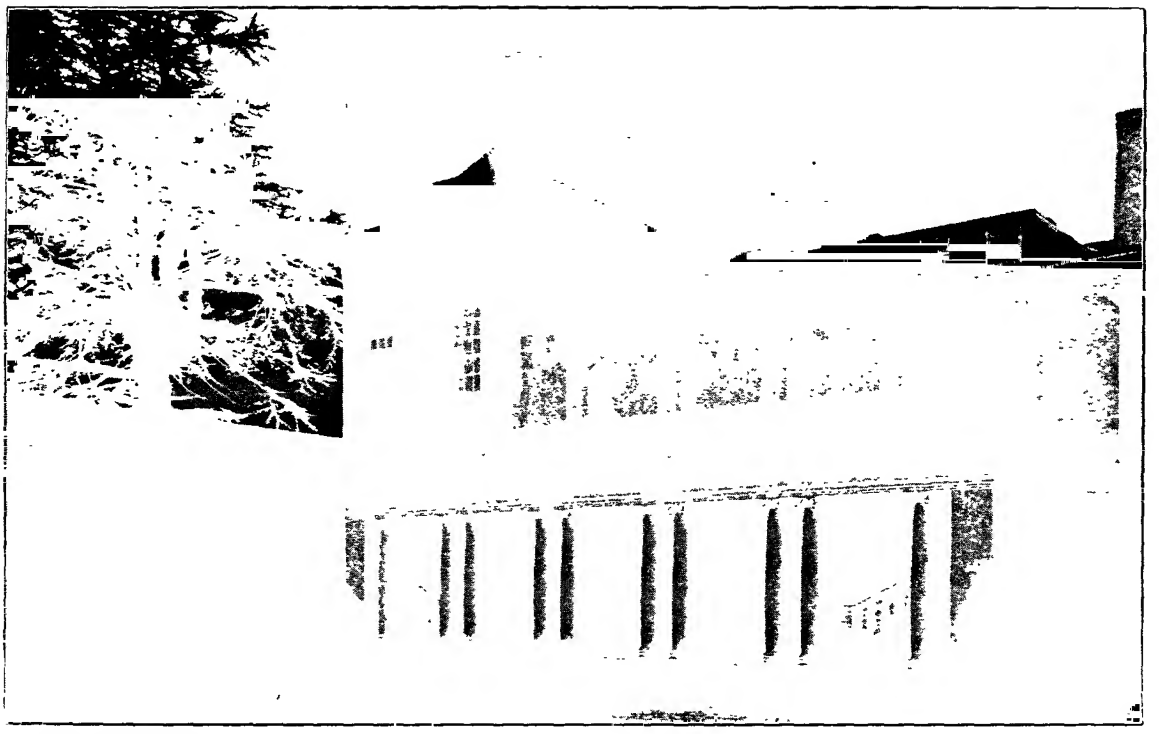


Photo. S. B. Bolas & Co.

CORNBURY PARK: NEW ENTRANCE.*

THE ROYAL GOLD MEDAL.

Presentation to Mr. John Belcher, A.R.A., *Past President*, Monday, 24th June 1907.

ADDRESS BY MR. THOS. E. COLLCUTT, *President* [*Royal Gold Medallist* 1902].

Ladies and Gentlemen,—

It is with very great pleasure that I find myself presiding on such an auspicious occasion as this, the presentation of the Royal Gold Medal to one of our most honoured *confrères*.

The Royal Gold Medal was instituted by Queen Victoria for the promotion of architecture, and I venture to say it has never been more worthily bestowed than upon Mr. John Belcher, A.R.A., who has done so much to advance our art, not only in his buildings, but also in his published works; and in saying this I feel sure I am expressing the sentiments, not only of our profession, but of the artistic world generally.

In the selection of the name they have this year presented to His Majesty the Council have done honour to their own judgment no less than they have done honour to Mr. Belcher.

With regard to Mr. Belcher's early career, I cannot do better than quote from the *Architectural Review* of September 1898, wherein you will find a very interesting record and review of his work.

"Articled to his father, Mr. Belcher brought to the beginning of his career the knowledge he had gained as a boy in Paris, where he had been sent to study and sketch, with parental instructions to pay special attention to the Renaissance as understood in France. For some

* This and the illustrations on following pages are reproduced from photographs of Mr. Belcher's executed works.

Photo. S. B. Bolas & Co.

ELECTRA HOUSE, MOORGATE STREET.

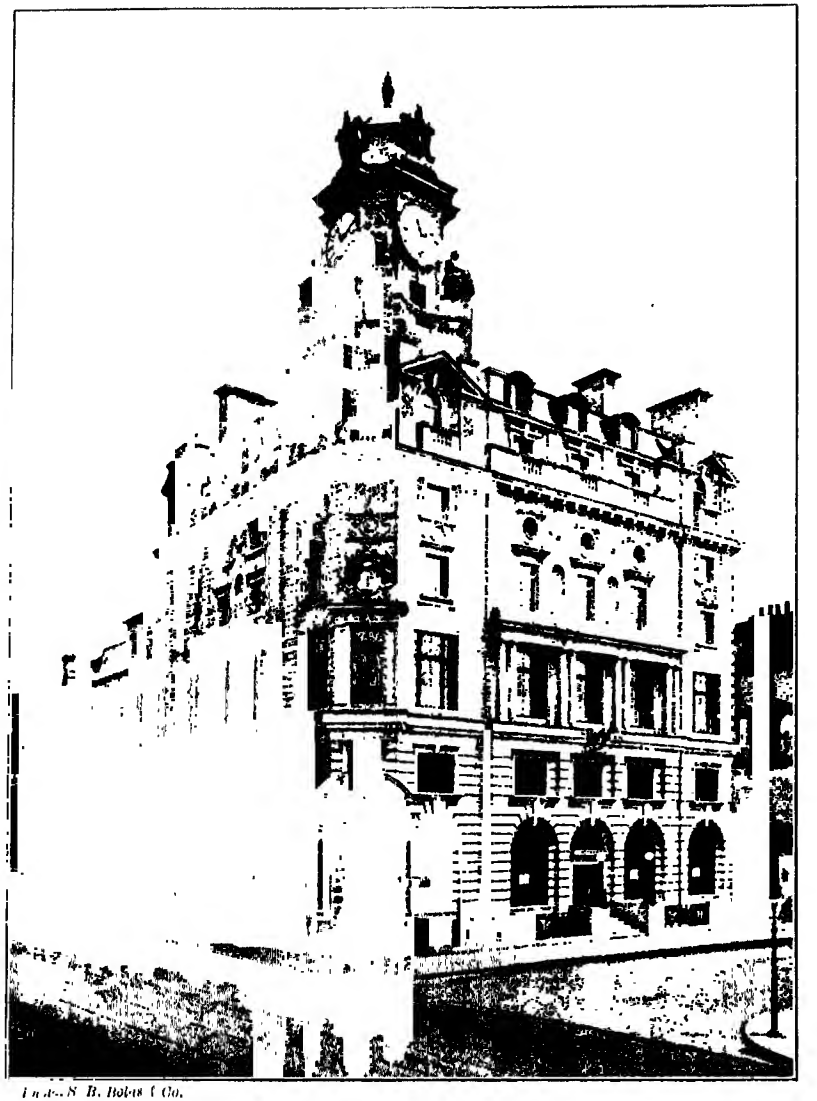


Photo. S. B. Bolas & Co.

ROYAL LONDON FRIENDLY SOCIETY.

Photo. S. B. Bolas & Co.

ROYAL LONDON FRIENDLY SOCIETY: HALL.

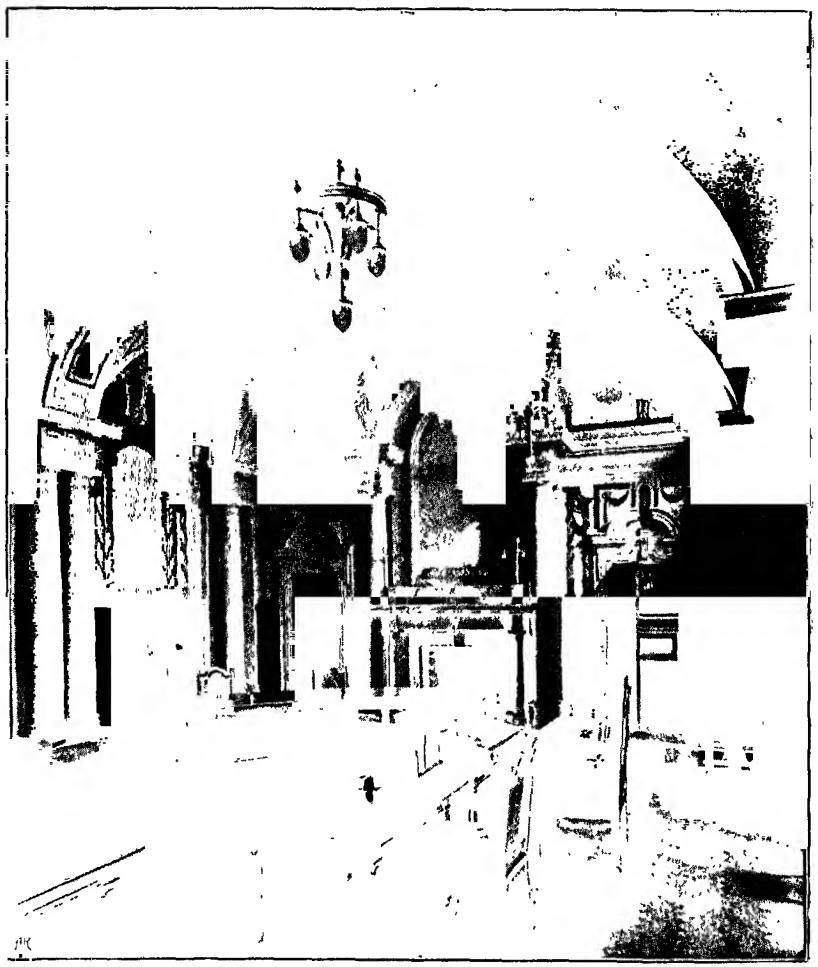


Photo. S. B. Bolas & Co

ROYAL LONDON FRIENDLY SOCIETY: BOARD-ROOM.

years after this he worked in partnership with his father; but when the latter retired the subject of this record and review, to quote his own words, 'after swallowing Street's Academy Lectures, forthwith proceeded on a wild Gothic career.' A great deal has happened since then, and he has long since ceased to be influenced by the words or works of such masters as Street or the other bright particular stars of the Gothic revival."

I have a dim recollection that Mr. Belcher's first tendencies were towards a phase of Gothic architecture, but he appears to have quickly discovered that his real inclinations lay in another direction. He very soon seems to have fulfilled the prophecy of his father, who, when he found his son being influenced by the Gothic revival, exclaimed: "You will soon come back to what I have taught you."

Mr. Belcher's work is so well known to members of the Institute that it is not necessary for me to give a detailed account of his many achievements, but it will doubtless be of interest if I give a short summary of his more important buildings.

Among these are:—Stowell Park, Gloucestershire; Hall, Curriers' Company; Rylands, Wood Street; Mordon Grange, Blackheath; buildings, Poultry; Bearroc, Berkshire; Eyot Villa, Chiswick, and other houses, Chiswick Mall; house, Royston; studios, Weirleigh; Tapeley Park, Devonshire; The Towers, Pangbourne; Boxley Park, Kent; stables, Northleach; Kineton Church, Warwickshire; South Marsdon Church, Wiltshire, and other restorations; Institute of Chartered Accountants; Electra House, Moorgate Street; Cornbury Park, Oxfordshire; lodges, Cornbury; Holcombe, Chatham; stables and cottages, Chatham; Winchester House extension; Ashton Memorial, Lancaster; and many other buildings.

The works that are perhaps best known to most of you are the great building in Moorgate Street, Electra House, and the building in which the Institute of Chartered Accountants find their home.

Electra House is broad, imposing and masculine in treatment, though showing great beauty and delicacy of detail.

The building of the Institute of Chartered Accountants is the work that perhaps impresses the artistic public more than any other: it is treated with great originality, the interior no less than the exterior. The judicious use of sculpture and painting is nowhere more successfully shown than here. The building is, in fact, a standing monument to the happy results that can be attained by the sympathetic collaboration of the architect, the sculptor, and the painter. Unfortunately this fine work is hidden away in back streets, crowded in by ordinary warehouse architecture, but, surrounded as it is by mediocrity, "it shines like a good deed in a naughty world."

It is peculiarly fitting that one who has so greatly distinguished himself in English Renaissance in these later days should have erected his greatest works in the city where the earliest masterpieces of that style are found.

Mr. Belcher was elected an Associate of the Royal Academy in the year 1900. I think I may say that the whole profession was unanimous in the feeling that the distinction could not have been better bestowed.

The very arduous duty of presiding at the meetings of the International Congress held in London in July last was undertaken by him as President. He also delivered an interesting Paper on the Education of the Public in Architecture. It must be fresh in your memories how admirably he fulfilled this onerous position, and with what indefatigable ardour he threw himself into the task of rendering the Congress a success. I do not remember that Mr. Belcher was thanked by the Institute for the valuable services he rendered, but I take this opportunity of saying that I feel we are all most deeply indebted to him.

Mr. Belcher has won deserved recognition by the valuable literary services he has

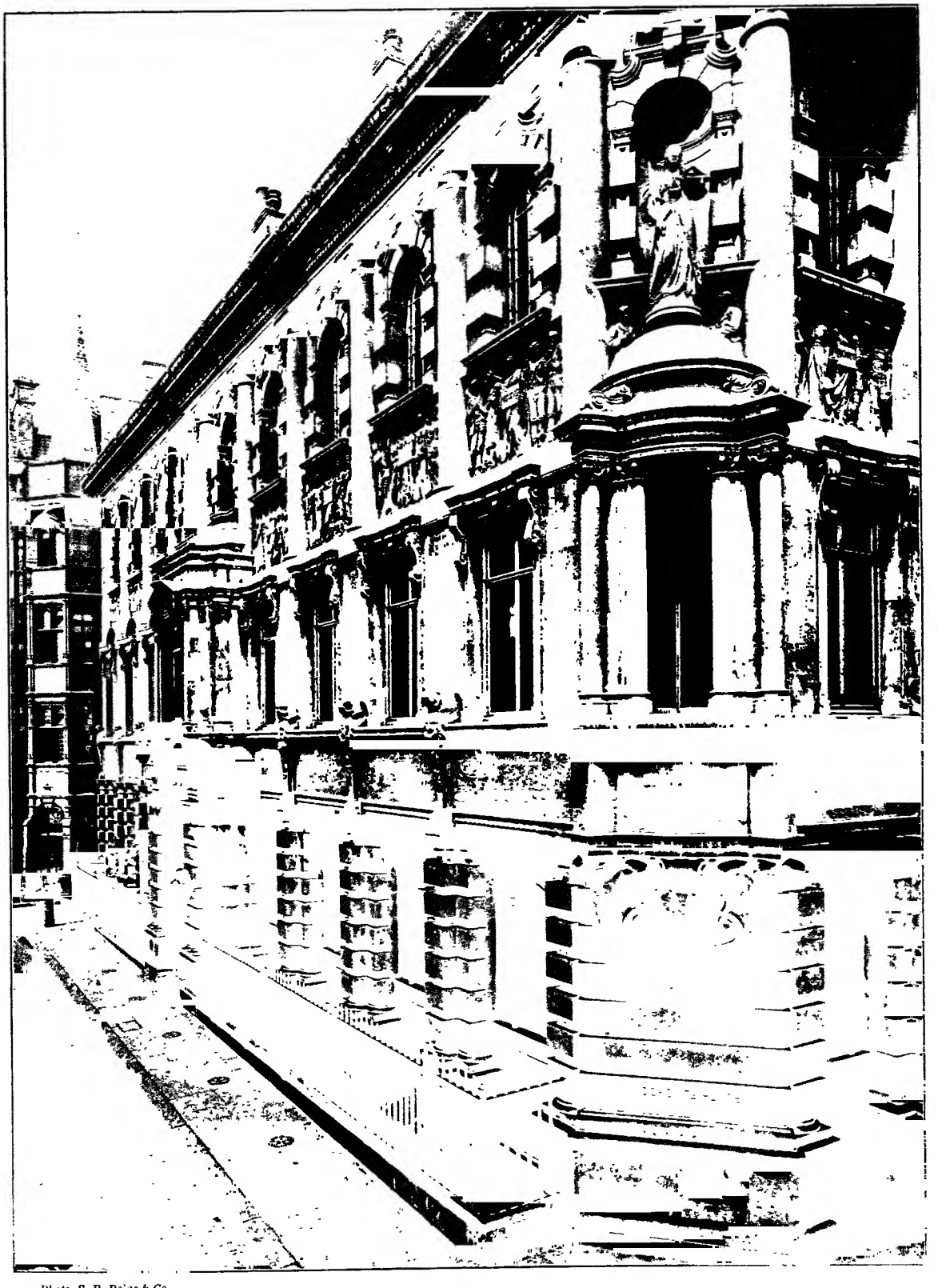


Photo. B. B. Bo'as & Co.

INSTITUTE OF CHARTERED ACCOUNTANTS.

rendered to architecture; but, however much we may value these services, it must not be forgotten that the Gold Medal is presented to him solely on the distinguished merit of his building work. In collaboration with Mr. Mervyn Macartney he published most exhaustive volumes on English Renaissance. I think there is no doubt that the study of this book has

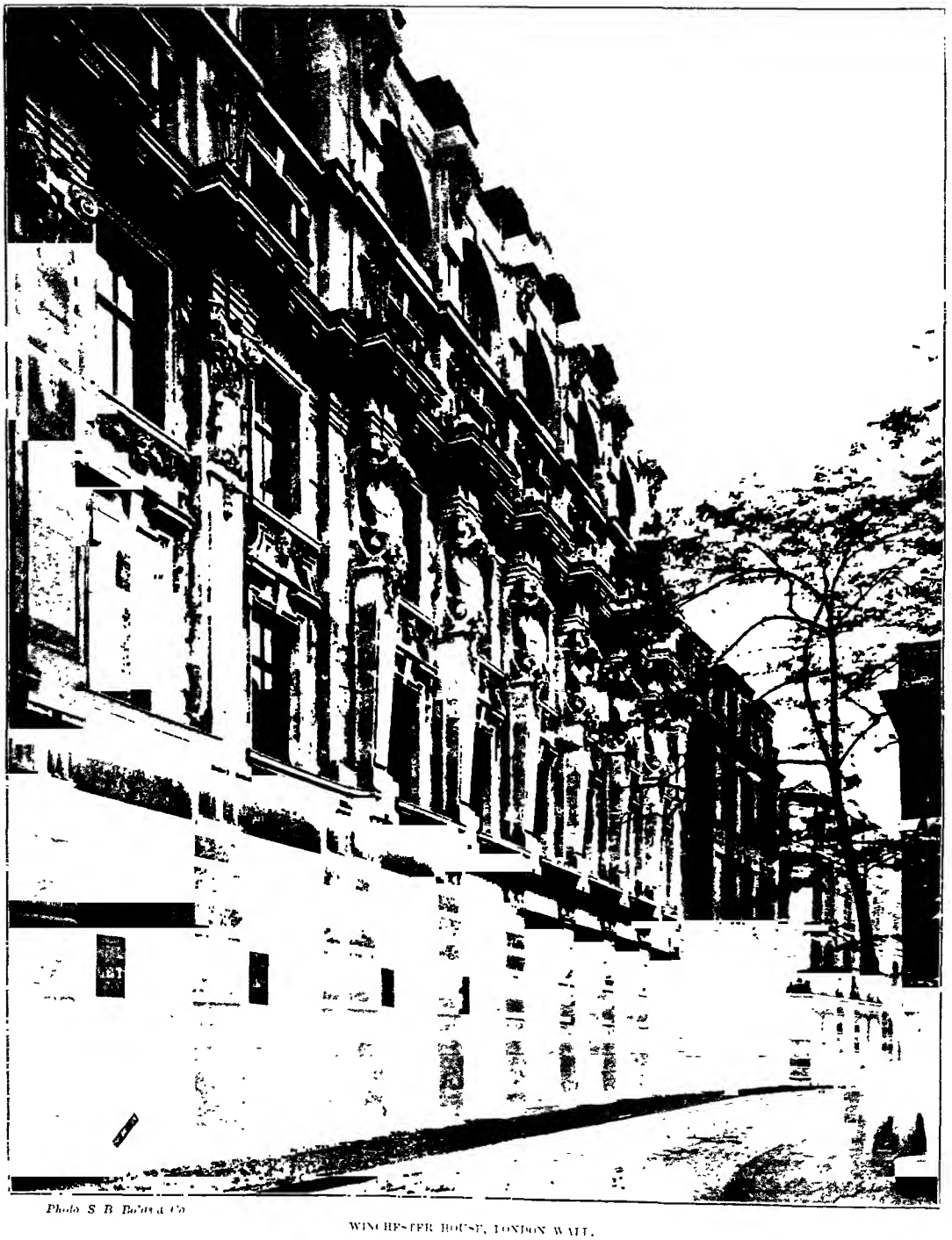


Photo S B Bolton & Co

WINCHESTER HOUSE, LONDON WALL.

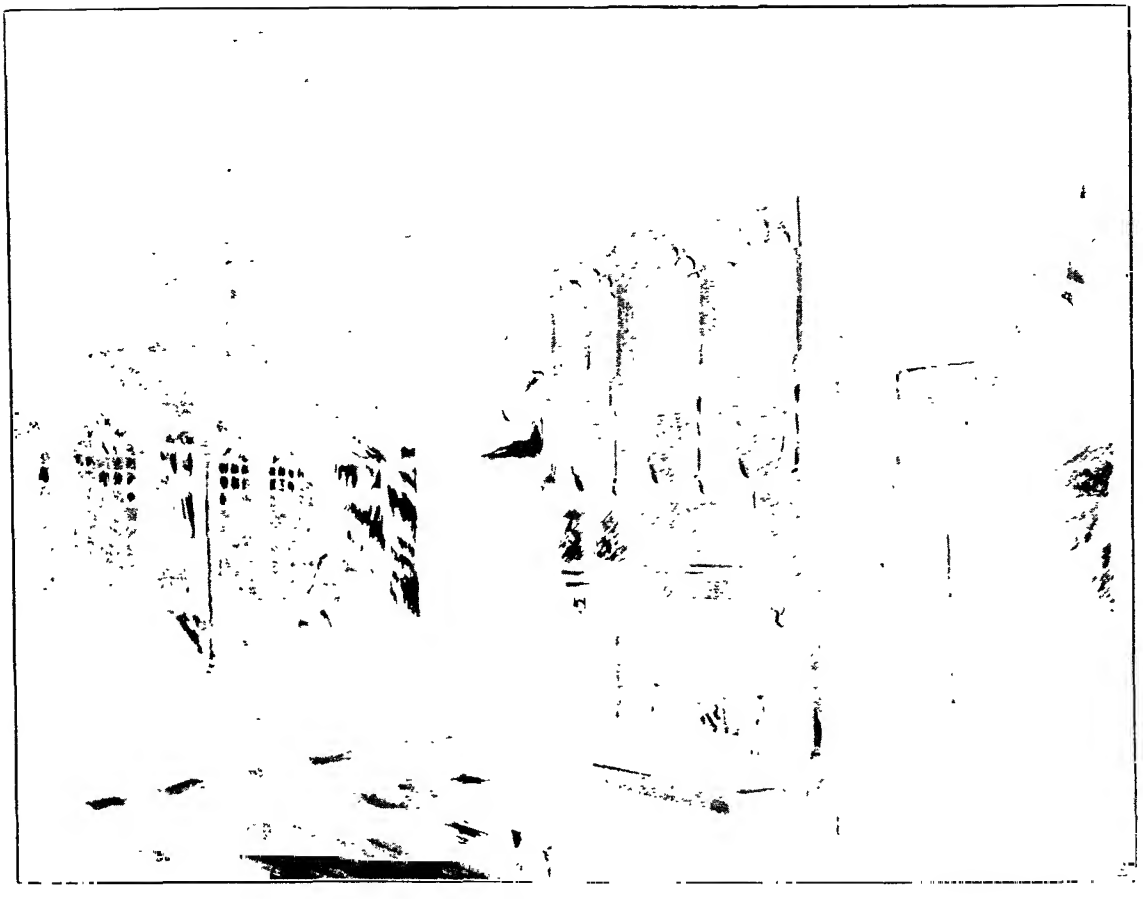
had a very beneficial influence on the more recent attempts in architecture of this style. In making the necessary studies for this important work we may surmise that Mr. Belcher was confirmed in his sympathies for that style in which he now practises so successfully.

Mr. Belcher's most recent book, *Essentials in Architecture*, can hardly yet be known to many of you, as it is only just published. The work is dedicated to this Institute in acknowledgment of its desire to stimulate a popular interest in architecture. I am fortunate in already having had the opportunity of becoming acquainted with its excellences. It is written in a very simple and convincing manner, and the undue use of technical terms is avoided. It will certainly appeal very strongly, not only to the architectural student, but also to the general public, to whom indeed it is chiefly addressed. We have long felt the need of such a work, and we hope it will influence the revival of an intelligent study and appreciation of our art. Mr. Belcher is to be warmly congratulated on the able manner in which he has supplied this want.

The President, addressing Mr. Belcher, concluded: "We look upon you, Sir, as one of those who are successfully carrying on the great traditions of English architecture. It is with the greatest pleasure and sincerest regard that I now invest you with His Gracious Majesty's Gold Medal, and you may be assured that all your brethren delight in the honour conferred upon you, and hope to see many more noble works from your hands."

Photo. S. B Bolas & Co.

INSTITUTE OF CHARTERED ACCOUNTANTS: STAIRCASE.



THE LOWELL HALL, STOWELL PARK.
From a water-colour drawing by the architect, Mr. John Belcher, A.R.A.

MR. BELCHER'S REPLY.

Mr. President, Ladies, and Gentlemen,

It is with very conflicting emotions that I rise to express my sense of the great honour that is done me this evening. Your kind words, Mr. President, I very much appreciate, and I am grateful to you also, Ladies and Gentlemen, for the cordial way in which you have signified your endorsement of those words.

The fact that this Gold Medal, bestowed by His Majesty the King, is awarded on the recommendation of my colleagues in the profession adds immensely to its significance and value. I have ever sought to serve the highest interests of architecture, and this proof and token of my brother architects' regard is most welcome.

But I am overwhelmed with confusion when I call to mind—and it is so easy to call to mind—the names of many great architects, both at home and abroad, who are far more deserving of this great distinction than I am. As regards many, if not most, of these I am able to console myself with the thought that they are younger than I am, and I may hope to have many an opportunity of being here to see such honoured with the Blue Riband of the profession. But even so, allowing the consideration that this Gold Medal is awarded annually to have its full weight, the sense of my own defects and limitations is strong upon me; but

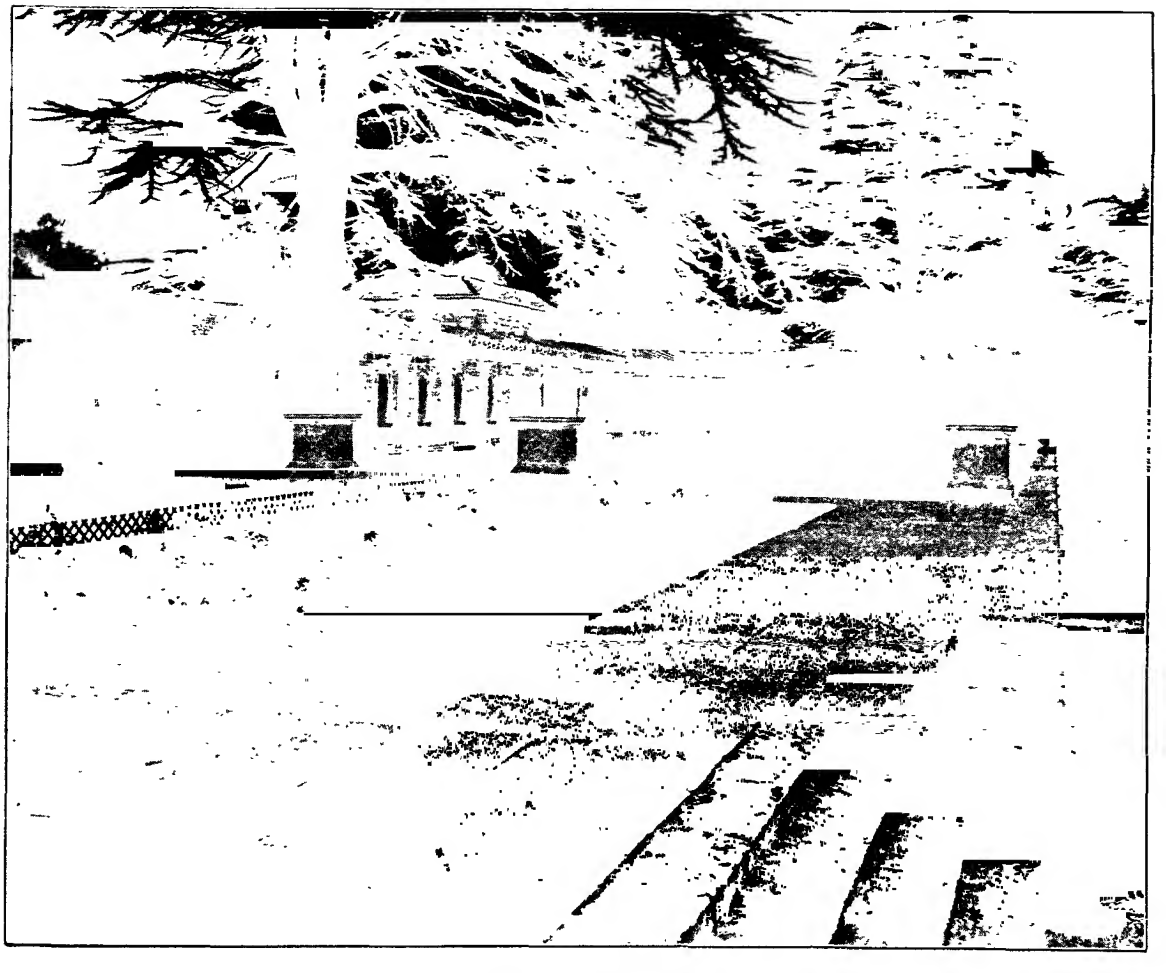
the way in which the President has made the best of the material at his disposal leads me to hope that you may give me credit for some at least of the virtues and good works he has ascribed to me.

You have encouraged me to believe, Mr. President—and I am sincerely grateful for the encouragement—that if my work has not been large or extensive in area, at least its quality is appreciated, and that it has been fruitful of suggestion to younger members of the profession who are devoting themselves to carrying on that elastic form of Renaissance work which is now becoming so popular.

I have always aspired to do really good work, and particularly work which should embrace and include in its scope the sister arts of sculpture and painting; and you almost persuade me, Mr. President, that I have not laboured in vain.

If indeed I have achieved success in this respect, let me acknowledge at once my indebtedness to my association with so many great sculptors, such, for instance, as my old friend Mr. Hamo Thornycroft, also Mr. Harry Bates, Mr. Geo. Frampton, Mr. Goscombe John, Mr. Drury, Mr. Pomeroy, Mr. Bertram Mackennal, and others, all of whom, at one time or another, have lent their aid in giving expression and artistic embellishment to my buildings.

But let me assure you also that I have been most fortunate in the men who have been



PERGOLA, CORNBURY PARK.

associated with me in the carrying out of my work—men of ability and enthusiasm, responsive to the call of art in its highest forms, kindred spirits with whom I have spent many happy hours and passed through some thrilling experiences of the kind familiar no doubt to all who work in an architect's office.

KINLTON CHURCH, WARWICKSHIRE.

Amongst the earliest of my friends was Mr. James Walter James, whose remarkable powers of organisation proved invaluable in the introduction and ordering of business methods in my office.

Then came Mr. (now Professor) Beresford Pite, of whose strong personality and versatile genius there is but little need to remind you. I think it was while he was still with me that

he won the Soane Medallion with his celebrated design of a mediæval West End club. Since then he has surpassed us all in the beauty of his "Renaissance" designs, and is, too, a distinguished exponent of the pure and refined methods of Greek architecture.

Professor Harry Wilson, of South Kensington, now distinguished not only in architecture, but as a painter, sculptor, and worker in metals, was also with me for a time, leaving

Photo. S. B. Boyd & Co.

CORNBURY PARK, OXFORDSHIRE: INNER HALL.

me, in the first instance, to join my old and sincere friend Sedding. Professor Reilly, of Liverpool, was not long in my office, but long enough, I hope and believe, to have enjoyed some of the work we had in hand then. Besides these three professors there are many others I could name who have won distinction, such as Needham Wilson (*Institute Medallist* 1884

and *Soane Medallist* 1886); Thomas Phillips Figgis; Hubert Corlette (*Owen Jones Student* 1896 and *Institute Medallist* 1899); also Messrs. James Fulton, James Charles Cook, James Scott, Balfour Paul, Lionel Detmar, Curtis Green, Herbert Ibberson, George Malcolm, and others.

Many of my pupils also have done credit to their sojourn in my office. Messrs. Philip Johnston, Alexander Hennell (*Tite Prizeman*), William Chadwick (now in South Africa), T. H. Russell, and Maberly Smith and others.

Then there is my present loyal and efficient staff, every member of which I appreciate; and last of all, one who is a host in himself, my trusty friend and partner, John James Joass (*Pugin Student* 1892, and *Owen Jones Prizeman* 1895). I may say we are so thoroughly in sympathy that my burdens are lightened by his efficient aid.

These have all been real friends and true fellow-workers, and one of the happiest occasions in my life was when recently all the members of my staff, both past and present, met to entertain me at dinner during my term of office as President of this Institute—a token of their esteem and affection which was, as you may easily imagine, most gratifying to me.

An architect may well count himself happy when he is loyally supported by men who know and lend themselves to his methods, even when they regard them as peculiarities, or even weaknesses. The last-named, the weaknesses, are especially open to the quantity surveyor, and I esteem myself fortunate in the services in this capacity of so able and so conscientious a man as Mr. Gleed, with whom my younger brother, Mr. Arthur Belcher, having very wisely devoted himself to this lucrative branch of the profession, is in partnership.

Then there are the builders to whom I am greatly indebted for the careful attention paid to my wishes and directions, notably Messrs. Colls & Sons, who have carried out so many of my City buildings in the perfect manner for which they are justly noted.

Amongst the hosts of individual workers, craftsmen, and others whose skill has been so faithfully employed in my service, I must mention by name my old friend Mr. Brindley, if only to acknowledge how much I have learnt from him. We all know Mr. Brindley as one of the greatest of living authorities on the different kinds of marble and their right use, but I know also how true is his love of art generally, and how good his judgment in all that pertains to his craft.

It is of great consequence to an architect that his associates should be such as can interpret and carry out his work sympathetically and intelligently. The architect has been likened to a general directing the operations of an army of workers; but to my thinking a happier and more suggestive comparison is that of the conductor of an orchestra leading and directing the executants in the interpretation of a work of his own composition. I prefer this because, as I understand the art of war, even in these scientific days, the vast majority of the units engaged are mere machines, whereas the architect, like the conductor of the orchestra, has to do with many minds. The various musical instruments in their sensitiveness and capacity of expression are responsive to the mind of the performer, and the musician has not only to understand the powers and limitations of each that he may build up his harmonies correctly, but if he would himself conduct the orchestra there must be mutual confidence and a sympathetic understanding between him and the executants. Only thus will he be able to secure a proper balance and proportion, a right tone or colour, and such subordination of one part to another as will constitute the whole a perfect work of art. The executants, of course, must one and all be of the very best.

A single incapable or ineffective unit *may* spell disaster to an army; the disaster is certain and inevitable if there be a single weak or faulty performer in the rendering of a

musical composition. The architect may well address his subordinates in the words which Pericles is said to have used to Phidias and other artists at Athens: "O ye who expect me to undertake great works, zealously prepare yourselves and harbour no inert self-confidence. None whose hands are not experienced and on whom Athene has not looked kindly will ever be employed by me."

It is obvious also that the more frequently the same men work together, the more thoroughly will they understand one another and adapt themselves each to his part in its relation to the whole. The several workers will acquire confidence in the architect and an intelligent insight into his thoughts and purposes as expressed in his designs. He on his part, gaining confidence in them, will be able to allow a certain amount of freedom of expression to the craftsmen under him, and thus give them a fair opportunity for the exhibition of their powers.

Now, more than ever, we want "men, not machines." The architect will not use his fellow-workers as an organist uses the stops of an organ; for the organ is a single instrument controlled by one mind, whereas the architect has to deal with a full orchestra of minds, all working together to one end—viz. the interpretation and expression of the architect's designs. The more perfect and sensitive this combination is, the more closely will the accomplishment of the work approximate to the ideal. The organ, wonderful and perfect as the king of musical instruments, is not a true type of the architect's work, but of the painter's, the various stops being employed, like the pigments of the artist, to obtain colour effects.

COLCHESTER TOWN HALL.

As regards the work of the painter and the sculptor, I have always contended and struggled for the collaboration of these with the architect, even in the days when such an idea was regarded as quite utopian. I am glad I have lived to see the arts drawing closer together, and even now working in unity. It is the architect who is (or should be) in a position to bring about this combination, which in its completeness is the most powerful that can be attained.

The building which shelters and provides scope for the art of the painter and sculptor is the work of the architect, and it is his to furnish the opportunities and the settings and to determine the subjects of the joint work. In all cases the artists should work together *ab*

initio—in the case of a building under the leadership of the architect; in the case of a monument under that of the sculptor; and in the case of a gallery or other place for the exhibition of his art under that of the painter. This is quite a different thing from the mere (and sometimes casual) providing space or place for the independent exhibition of works of art. The true collaboration of the arts leads to far higher and nobler results than the haphazard kind of arrangement that has so long prevailed, and I trust that the day is not far distant when the students of the various arts will be more completely organised and associated than they are at present, and will be set to work out problems together, and together accomplish noble works in which they can join hands and hearts.

Ladies and Gentlemen and Colleagues, I trust you will pardon these somewhat lengthy remarks, and let me assure you that I am grateful for the hearty and encouraging reception you have accorded me, not only now, but always—a kindness which will ever remain graven deep on my heart!

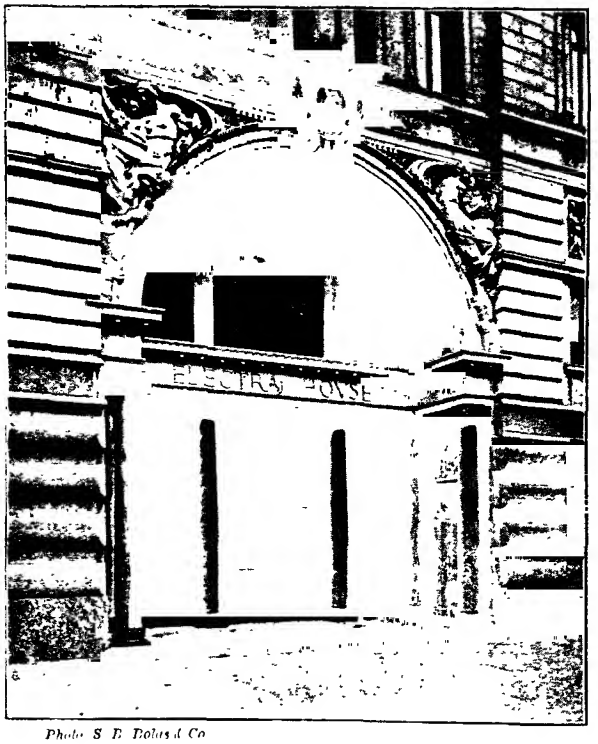


Photo S. B. Bolas & Co.

ELECTRA HOUSE: ENTRANCE.

BYZANTINE TIMBER-BUILDING IN CYPRUS.

By George Jeffery (Cyprus).

BYZANTINE architecture possesses few of those principles of organic development and vigour which give interest and the æsthetic quality to the masoncraft of Europe during the Middle Ages and the Renaissance. It is the art of a region which has almost always formed an arena for devastating warfare between alien races, opposing creeds, and commercial rivalries. The ever-recurrent chaos of the Byzantine Empire could hardly be a suitable *milieu* wherein to cultivate the arts and sciences. Byzantine art may be described as a "fragmentary" style, a style based upon the use and application of fragments from former buildings, generally used in a manner and for purposes for which they were not originally intended. At the same time local variations in the method of construction, and evidences of foreign influence in planning and details of a decorative kind, afford material for study, and compensate to some extent for the absence of the higher qualities of architectural art.

Cyprus, a land of sun-dried brick and the poorest of building materials, can claim but an insignificant rank in the Byzantine realm of art. Its ancient villages of mud-roofed huts are hardly distinguishable at a distance from the surrounding levels of sun-baked earth and waterless plain, and their only architectural features are their little Byzantine churches. These little churches of course resemble those in other regions of the vast Orthodox communion, but certain features are perhaps peculiar to the island.

The evanescent village life of former times is traceable all over Cyprus by the little churches. Standing alone in many cases as landmarks on the great central plain of the island, or showing as minute white patches on distant hills, they mark where villages once stood—villages of which the houses of sun-dried brick have long since crumbled away into the earthy levels of their origin.

In the higher mountainous districts of the island a singular method of construction is applied exclusively to the village churches and monastic buildings. Instead of the customary Byzantine domical style of the flat countries of the Levantine littoral, timber roofs are used, and even the walls are largely supplemented with timber framework. This method of construction seems like a survival of some primitive style similar to that which prevailed in some parts of Northern Europe until the more scientific system of the fourteenth and fifteenth centuries became general.

This style of Byzantine timber construction has a curious localisation, resembling the distribution of a flora at different heights above sea-level. Like the pine forests from which these little churches have been built, the method of construction can only be met with at a height of more than a thousand metres. Below that level the more ordinary-looking Byzantine churches are to be found, and woodwork plays no part in their design. Their vaulted interiors are flat-topped externally, and their little domes seem more in harmony with the palm trees and arid landscape of the lowlands.

The examples shown in our illustrations [figs. 1 and 2 and 1 and 2*a*] are possibly of the period preceding the Turkish invasion of the island. In Cyprus it is, however, very difficult, if not impossible, to form any exact chronological idea of the dates of ancient buildings. Styles and methods of building seem to have continued in use through long ages without any of that evidence of development we notice in other countries, and the date of a building can only be guessed at by the presence of some detail which has evidently been imported from a foreign source. Our other illustrations of these churches probably represent buildings of the seventeenth and eighteenth centuries, and it will be noticed how very much a quite mediæval or ancient character continues to manifest itself. The almost total absence of datés and inscriptions on Byzantine buildings (except such as are of very recent times, and often very misleading) is one of their unfortunate characteristics, and renders comparative study very difficult. This singular absence of inscriptions is presumably due to the illiterate state of society and the mingling of languages in the Levant throughout the Christian era. The great poverty of the population of such a country as Cyprus before and since the days of the little mediæval kingdom (thirteenth to fifteenth centuries) also accounts for the absence of memorial inscriptions on tombs or elsewhere. The comparatively barbarous islanders of a century ago

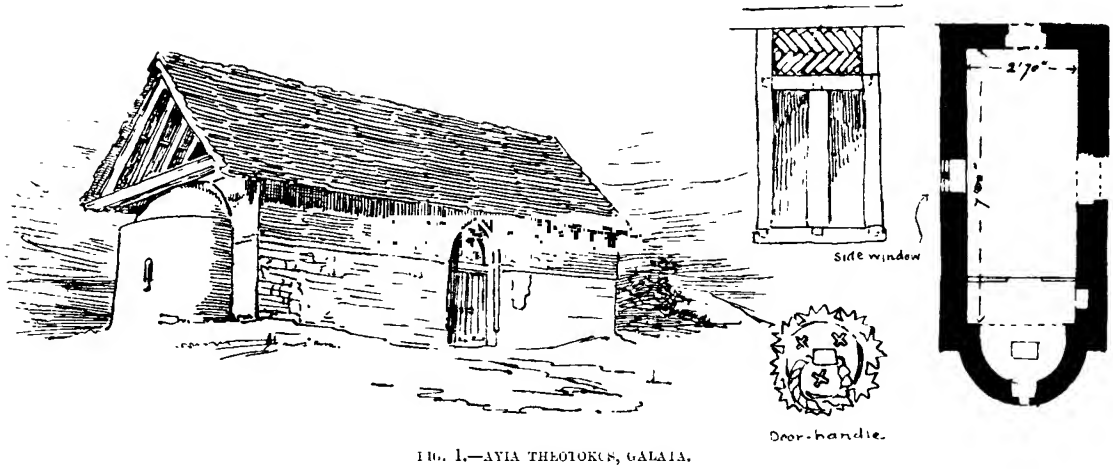


FIG. 1.—AYIA THEOTOKOS, GALATA.

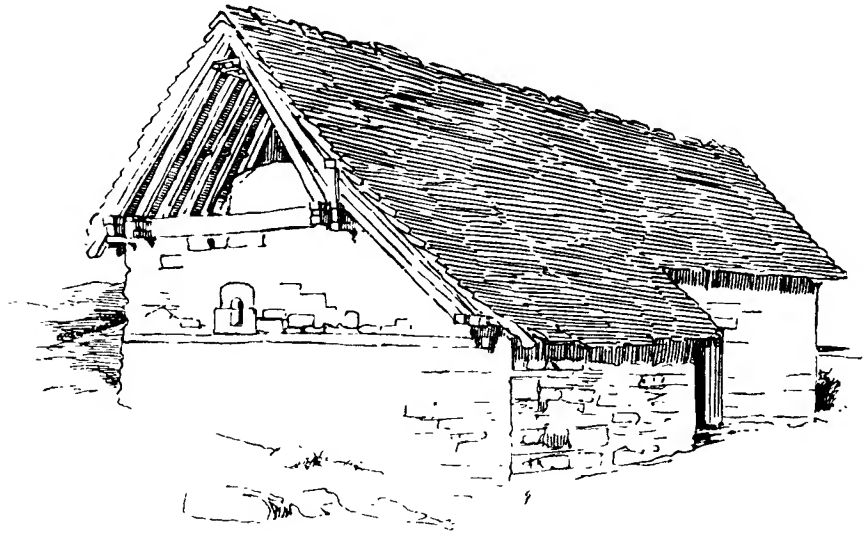
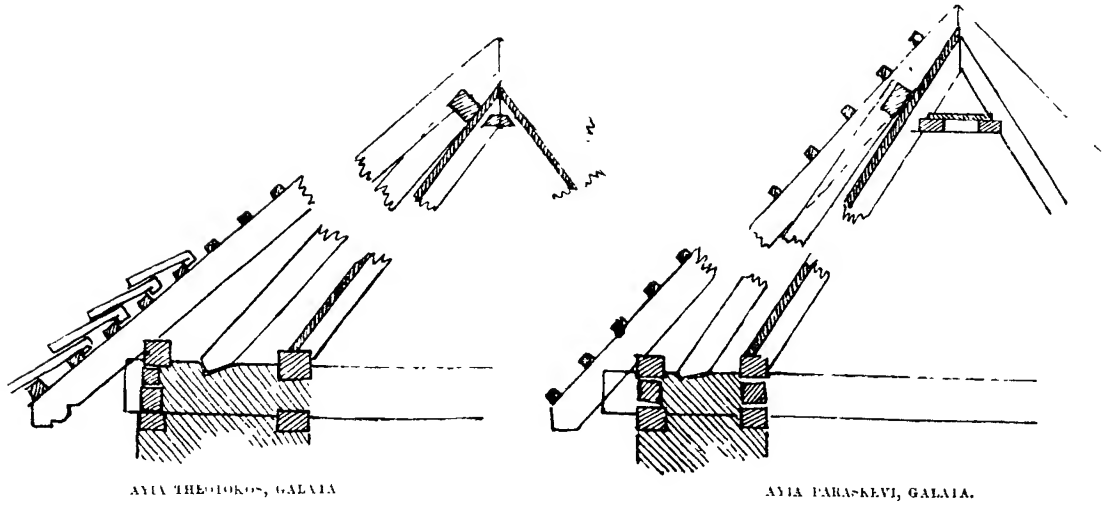


FIG. 2.—AYIA PARASKEVI, GALATA.



AYIA THEOTOKOS, GALATA

AYIA PARASKEVI, GALATA.

FIGS. 1 AND 2A.

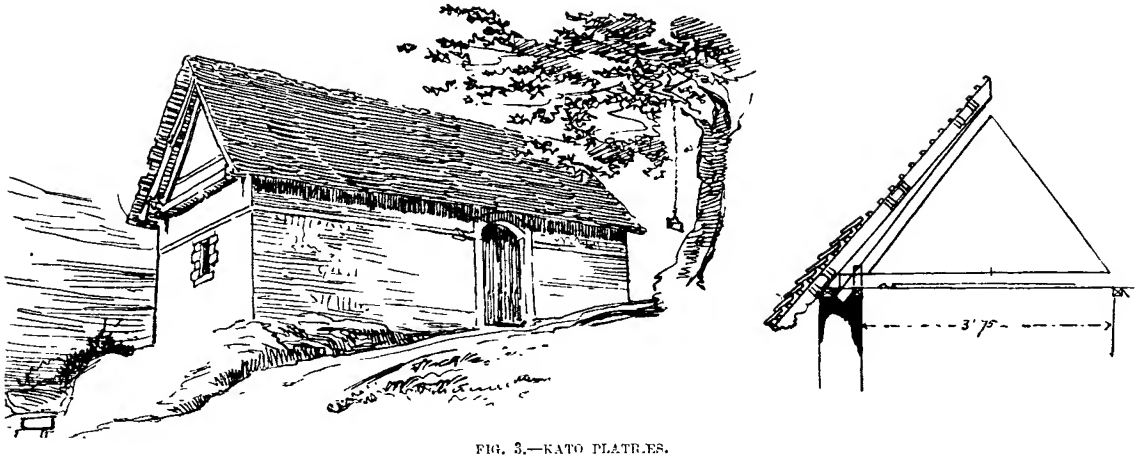


FIG. 3.—KATO PLATRES.

were more inclined to destroy all vestiges of art and history than to perpetuate or continue such records.

The peculiar style of construction which forms the subject of the present article is well illustrated in figs. 3, 4, 5, and 6, and in the diagrams of the roofs, figs. 7 and 8.

At first sight these high-pitched roofs, supported on ridge pieces carried by principals, have very much the appearance of the barns which still survive in the north of Europe from a style of construction previous to the scientifically trussed roofs of the Middle Ages. They are, however, different in one respect: the European barn is usually built upon "crucks," which start from a little above the floor level; whilst the Byzantine church roof of Cyprus, although not trussed in the mediæval or modern sense, is always constructed from the level of about three to five metres above the ground; in other words, on the top of a wall. A tie-beam is imperative under the circumstances, but it is adopted in a singularly unscientific and imperfect way. As used in these Cyprus roofs it is little more than a tie between the numerous wall-plates placed above and under it, and forming a sort of timber sheathing to the top of the wall. It serves to tie the two side walls together, and the wall-plates make a strong base to resist the thrust of the principal rafters, which carry the whole weight of the roof on their upper extremities. Such a remarkable way of building a roof—much as a child builds a house of cards—suggests the survival of some very early and almost savage conditions of humanity; it certainly belongs in origin to a time when it was customary to use the "crucks" planted on the ground, or, for that matter, to the nomadic life with its tent-poles and "wigwam." The only advance in the matter consists of raising the whole construction on to the top of the two side walls.

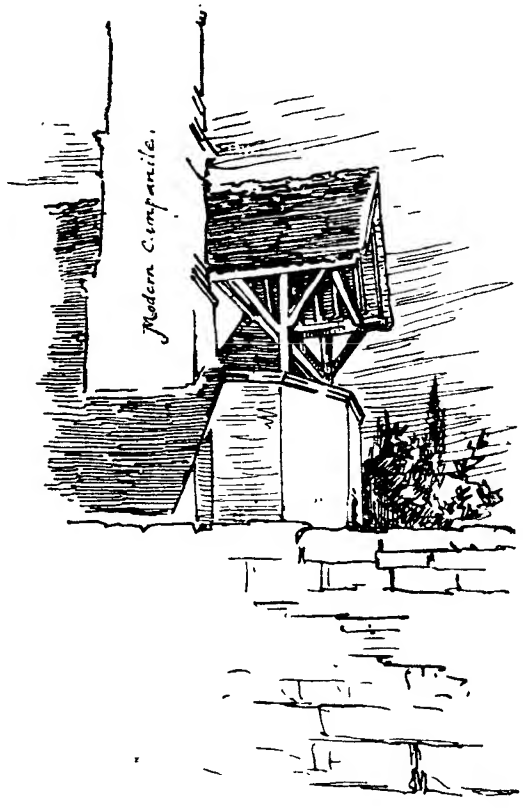


FIG. 4.—AYIOS IOANNIS, KHANI

The method of building these roofs seems to have been as follows. On the top of the side wall were laid two wall-plates, one on the outside edge, one on the inner. On these wall-plates a series of tie-beams were disposed, on an average about three metres apart. The tie-beams then received two more wall-plates on their upper surface: they were notched to all four plates, two above and two beneath. The space between the wall-plates was then "packed" with masonry and pieces of wood, forming a solid compact mass. Upon the upper plate, inside the wall, rest the notched feet of the

FIG. 5.—AYIA MAVRI, KILANI.

principals, which carry on their upper ends a heavy ridge piece. The principals are placed at about 25 to 30 centimetres apart, and serve only for the support of the ridge and for a boarded ceiling, which seems to have been laid on them before the common rafters were added. This boarding is sometimes decorated with thin mouldings, nailed on the underside against the rafters. The ceiling being completed, the outer or common rafters were laid on the ridge piece and on the upper outside wall-plate, and on these common rafters laths were nailed for the tiles, and the timber framing of the roof was then complete.

Such a method of construction as above described cannot of course be adopted for spans of more than 5 to 6 metres, and the angle at which the principals are inclined must be at least 15 degrees. The walls must also have a considerable thickness to resist the pressure on their top inside edge. The system does not appear a very stable or scientific one, yet there are examples of these roofs which appear to be centuries old, and which continue to answer their purpose. The construction is really very slight; the principals on an average are only 20 by 10 cm. or 25 by 15 cm. in thickness. The adoption of such a system must be attributed to the want of large building timber in the region in primitive times, and to the absence of suitable carpentry tools and the knowledge of how to use them.

The timber used in these roofs of little churches is always split, not sawn. It is merely shaped roughly with the adze; the tie-beams are carefully squared and sometimes moulded or chamfered. Young pines have been sacrificed without number to form the rafters, and the older stems, which required greater efforts to fell and shape, have been reserved for the tie-beams. Sawn timber for building was probably almost unknown in Cyprus until the coming of the English about a quarter of a century ago. Even the mediæval European settlers of the fourteenth century probably used the same primitive mode of construction with roughly squared tree trunks as here described. Since the English occupation strenuous efforts have been made to check the wholesale destruction of the pine forests which used to be permitted under Turkish rule, and the more recent buildings in which wood is used have been supplied by the same sort of young tree trunks imported from the neighbouring Anatolian coast, or by the introduction of Trieste deals.

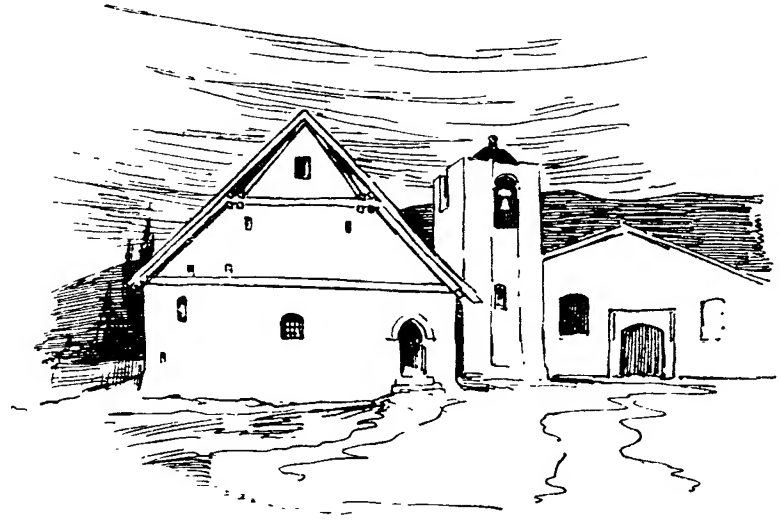
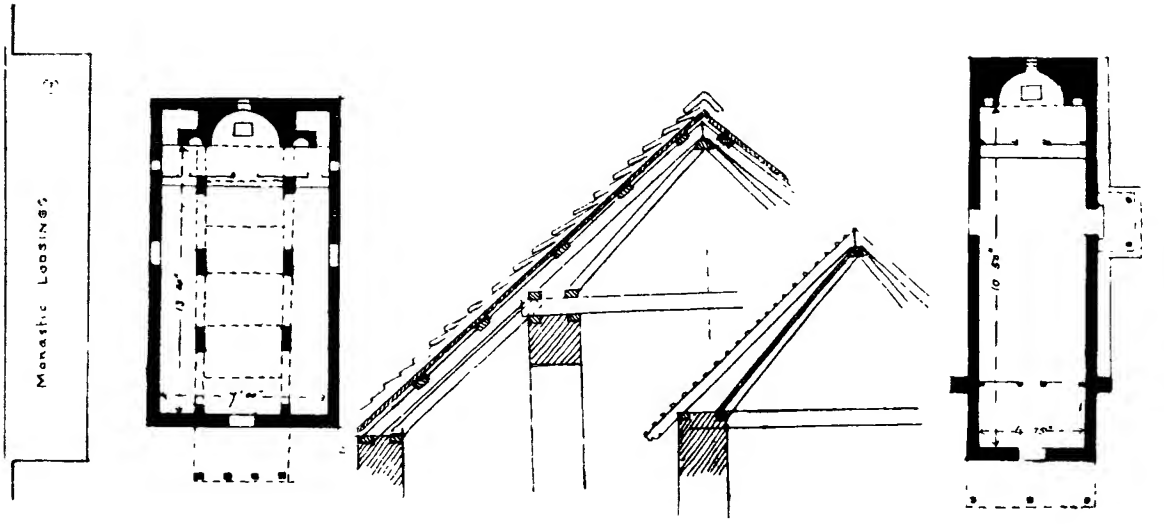


FIG. 6.—PANAYIA, KILANI.



TRIKOVKKIA MONASTERY. AYIOS PRODROMOS.

FIGS. 7 AND 8.

In framing these roofs wood pins have been used by the older builders, and so their work has been preserved. In more modern examples, where iron nails and bolts have been introduced, the construction is fallen into dilapidation. It will be noticed that in some cases the rafters are kept in position by a piece of wood laid across them, which at first sight looks like a purlin, but has, of course, no use in that sense. It merely serves to tie the rafters together.

To cover this roof construction a form of heavy tile was adopted, which, with a hook projection underneath, stands on the tiling battens by its own weight. The dimensions of the tiles are about 20 cm. by 30 cm. by 4 to 5 cm. The custom seems to have been to make these tiles in a kiln constructed on the site of the building operations; this accounts for the tiles being marked underneath in some cases, as at Troodiotissa [see sketch, fig. 9]. The building materials of these churches were in all cases perfectly local; no timber or other necessaries in construction were imported into the island before the British occupation, with the exception of iron, a metal but little used in village architecture. At the present day all this is changed, and the modern village builders would be at a loss without their German tools, timber, glass, "French tiles," and English corrugated iron and ironwork. At the present day the towns of Cyprus are being rebuilt under the influence of Europeans or travelled natives, and as a necessary consequence the older methods of building are almost extinct in all parts of the island.

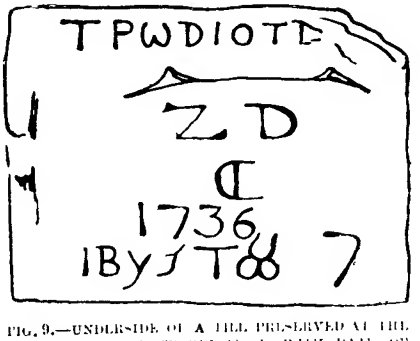


FIG. 9.—UNDERSIDE OF A TILE PRESERVED AT THE MONASTERY OF TROODIOTISSA, WITH DATE OF LAST REBUILDING OF THE PREMISES.

Certainly no new or modern village church will ever again be built in the singular style of the Troodos district.

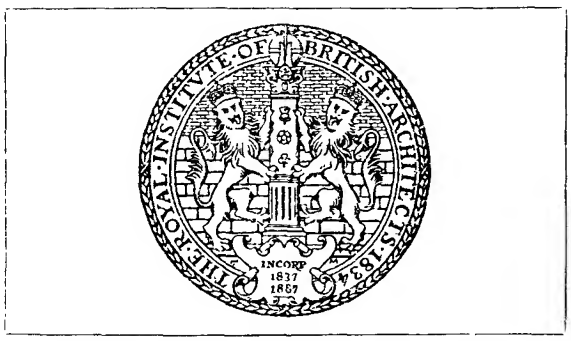
As already remarked at the commencement of this article, the artistic efforts of the Cyprus villagers are devoid of any qualities which attract the attention of the European visitor. A barbaric display of gilding on the iconostasis, accompanied by a stereotyped and poor carved ornamentation, forms an appropriate setting for the grotesque icons, or pictures of saints, with which the interior of an Orthodox church is always adorned. In the Troodos district the general use of wood seems to have induced a certain variation from the type of these church fittings usual in the domical stone buildings of the plains. In place of the very feeble attempts to copy the Italian style of picture-frame woodwork in the ordinary kind of iconostasis, these mountain village churches are often provided with screens which approximate to the rood screen of Europe. A good example of such a screen exists in the Church of the Archangel at Pedoulas [fig. 10]. This little building appears to survive in a remarkable manner from the pre-Turkish period, to judge by a large coat-of-arms of the Lusignan dynasty which remains on the central panel under the canopy of the iconostasis. The side divisions of this iconostasis, instead of being closed up with icons, as is usual in more modern examples, are left open, so as to allow of a view into the "Bema," or sanctuary. On the top of the panelling which forms the lower part of the screen is a groove into which

the movable icons are fixed. A series of life-size heads of saints, painted on the walls, is carried round the little church at the same level as those on the iconostasis, and forms a curious background to the heads of the living members of the congregation which happen to range on the same level.

These little churches of the Troodos possess the interest always attaching to a bygone condition of society—to a method of temple building as much out of date as that of the ancient Greeks. With little that can be called artistic feeling these venerable little buildings harmonise with the high rounded outlines of the Cyprus limestone formation and the thick foliage of pines and plane trees. To the student of Byzantine architecture they perhaps exhibit elements in the style which have hitherto not received any special study.

FIG. 10.—AYIOS ARKANGELOS, PEDOVLAS.

In the above description it will be noticed that only church roofs have been referred to. As in the days of the primitive inhabitants of Cyprus—Phœnicians, Assyrians, &c.—so in more modern times the temple was the only building of any importance or permanence in a village; the houses of the villagers were always, as they are at the present day, mere huts of unbaked bricks covered with mud roofs. The general use of unbaked bricks naturally prevents any attempt at trussed roofs of a scientific sort. The covering of mud is merely laid on layers of cane matting supported by roughly squared young tree-trunks, and the width of the chambers in a village house is determined by the length of the available saplings. Chambers are sometimes increased to double the size, or even more, by carrying the rafters on thin stone arches constructed with gypsum mortar. External galleries and porches are also constructed in the same way, with their stone arches on slender columns. Domestic buildings in Cyprus are of a very flimsy and unsubstantial kind, and as a rule rarely survive the use of a generation.



9, Conduit Street, London, W., 29*th June* 1907.

CHRONICLE.

Presentation of the Royal Gold Medal.

A series of remarkably fine photographic views, interior and exterior, typical of Mr. Belcher's executed works were exhibited in the Meeting-room on the occasion of the Presentation last Monday. Some of these, reproduced to a diminished scale and consequently lacking something of the quality of the originals, are given in the earlier pages of this number.

The ceaseless downpour of rain on Monday evening was doubtless the cause of a somewhat thin attendance—thin, that is to say, compared with the average Gold Medal night. The function, however, was brightened by the presence of several ladies, and there was no lack of interest or of cordiality in the proceedings. Mr. Belcher had the heartiest of receptions. The rounds of applause which greeted him when, vested with the Medal, he turned to address the meeting testified abundantly to the popularity of the present year's award.

Past Royal Gold Medallists present included the President himself, upon whom the distinction was conferred in 1902; Mr. Ernest George [*F.*], *doyen* of surviving English Gold Medallists, who received the honour in 1896; and Sir Lawrence Alma-Tadema, O.M., R.A. [*H.F.*], who received it last year. The Royal Academy was further represented in the persons of Mr. David Murray, R.A., Mr. Frank Dicksee, R.A. [*H.A.*], who, it will be remembered, has in hand for the Institute the portrait of Mr. Belcher as Past President; Mr. Reginald Blomfield, A.R.A. [*F.*], and Mr. F. W. Pomeroy, A.R.A. Sir Aston Webb, R.A. [*Royal Gold Medallist* 1905], wrote regretting his inability to be present owing to the illness of Lady Webb. Mr. Alfred East, A.R.A. [*H.A.*], had also intended to be present, but was prevented at the last moment.

The President, in his address, gave happy expression to the thanks the Institute and the profession at large owe to Mr. Belcher for his distinguished and indefatigable service as President of last year's International Congress. The President's acknowledgments were warmly endorsed by the meeting. It may be mentioned in this connection that Mr. Belcher has been the recipient of numerous gratifying marks of appreciation from various foreign societies and corporations represented at the Congress. He has been elected Membre Agrégé de l'Académie Royale des Beaux-Arts, Antwerp; Membre Correspondant de la Société des Architectes diplômés par le Gouvernement Français; Membre d'Honneur de la Société Centrale de Belgique; Membre d'Honneur de la Société Impériale des Architectes Russes; Membre d'Honneur de la Société Royale de l'Architecture, Amsterdam; Hon. Member of the American Institute of Architects.

The President's "At Home."

The second of the President's "At Homes" held this Session took place in the rooms of the Institute on Tuesday, the 25th inst. The function was numerously attended, the guests numbering little short of two hundred and fifty, many of them members from the provinces.

By the kindness of the artists whose names are given below, the President had been able to arrange for the occasion an exceedingly interesting exhibition of drawings of colour decoration, original cartoons for executed works in stained-glass, mosaics, frescoes, and mural tiles. The exhibits made a very effective display as arranged on the walls of the Meeting-room, and attracted a good deal of attention. The following is a brief list, with the artists' names:—

Mr. J. D. Crace [*H.A.*]—

Details of Colour Decoration (sketched from the old work) at Santa Maria dei Miracoli, Venice; Pal. Doria Pamfili, Genoa; Santa Maria del Popolo, Rome; San Giovanni, Siena.

Ceiling at Longleat, as designed and executed—water-colour drawing.

Decoration of Entrance Staircase, National Gallery, as designed and executed—water-colour drawing.

Restoration of Ceiling in Old Carrington House—water-colour drawing.

Mr. Walter Crane—

Colour Drawings for Mural Tiles—subject "The Five Senses"—awarded Gold Medal at Paris Exhibition.

Mr. R. Anning Bell—

Cartoons for Stained Glass Windows; subject "Adoration of the Shepherds"—awarded the Prix d'Honneur at the Milan Exhibition.

Mr. Selwyn Image—

Various Cartoons for Mosaics and Stained Glass Windows.

Mr. Gerald Moira—

Designs for the Lunettes at the New Sessions House, Old Bailey.

Baron Arild Rosenkrantz—

Cartoons for Stained Glass Windows at Southwick Church; for Hewell Grange, residence of the Earl of Plymouth; and for Harpesden Court.

Cartoon for Mosaic at St. Andrew's, Streatham.

The late ALFRED STEVENS -

Various Studies lent by Mr. R. Phenè Spiers, F.S.A.

There were also on view the collection of photographs of Mr. Belcher's executed works above referred to.

Architectural Development of Towns.

As stated in the last number of the JOURNAL [p. 554], the Art Standing Committee have had before them the resolution of Mr. Whitwell Wilson, M.P., in the House of Commons [JOURNAL, p. 480] on the subject of the development of towns and their suburbs, and the statement of the President of the Local Government Board in the House that the Government had before them alternative Bills "to carry out what is immediately pressing." The Art Committee have recommended the Council to appoint a Committee to consider the matter and report. The Council at their meeting on the 10th inst. adopted this recommendation, and have appointed a Committee consisting of Mr. T. E. Collcutt, *President*, Sir Aston Webb, R.A., Messrs. John Belcher, A.R.A., Paul Waterhouse, John W. Simpson, W. E. Riley, Leonard Stokes, Reginald Blomfield, A.R.A., and Professor Beresford Pite. The task set the Committee with reference to the Local Government Board Bills is to suggest the lines on which a scheme can be prepared for the expansion of the suburbs of large towns on a rational plan. The Council have also addressed a letter on the subject to the President of the Local Government Board.

Crosby Hall.

At a meeting of the Court of Common Council held at the Guildhall on Friday, the 14th inst., the Lord Mayor presiding, Mr. Deputy Ellis presented a petition of the Society of Antiquaries, the Royal Institute of British Architects, the Society for the Protection of Ancient Buildings, and other Societies praying the Court to further consider the desirability of the preservation of Crosby Hall. A deputation was present, headed by Sir Henry Howarth, Vice-President of the Royal Archæological Institute, and consisting of Mr. Philip Norman and Mr. Seymour Lucas, R.A., representing the Society of Antiquaries; Mr. Alex. Graham, F.S.A., the Royal Institute of British Architects; Mr. Nigel Bond, the National Trust for Places of Historic Interest or Natural Beauty; Dr. Edwin Freshfield, F.S.A., Mr. F. G. Hilton Price, F.S.A., Sir Edward Brabrook, C.B., F.S.A., and Mr. Allen S. Walker, the London and Middlesex Archæological Society; Mr. J. G. Clift, the British Archæological Association; and Mr. Thackeray Turner, the Society for the Protection of Ancient Buildings. The petition was as follows:—"That, in view of the widespread feeling that has been aroused at the threatened destruction of Crosby Hall, and in view also of the fact that the building is of extreme interest to the City of London as the only existing example of a great mediæval merchant's house, and as having been occupied, not only by famous citizens of London, but by others whose names are preeminent in English history, your petitioners pray that your honourable Court will be pleased to take into further consideration the preservation of the ancient building." Mr. Seymour Lucas, R.A., said Crosby Hall might be converted into a very useful museum. Sir Henry Howarth said he had a letter from the Chairman of the Committee of the London County Council which dealt with historic buildings promising to lend their co-operation to any movement initiated by the Corporation. Mr. Deputy Ellis proposed that the petitions and also the letter of the Secretary of the Royal Institute of British Architects enclosing a communication with regard to the preservation of Crosby Hall addressed by the Council of the Institute to Alderman Sir Horatio Davies and the Chairman of the Chartered Bank of India, &c., should be referred to the City Lands and Library Committees for consideration and report.

The following is the letter above referred to which was addressed by the Council to Sir Horatio Davies and to the Chairman of the Chartered Bank of India, Australia, and China :—

12th June 1907.

SIR,—The Council of the Royal Institute of British Architects view with great concern the proposals to demolish the ancient monument known as Crosby Hall, and direct me to write to you on the matter.

They would point to the great architectural and historical value of the building, and they venture most earnestly to hope that the vendors and the directors of the Chartered Bank of India, Australia, and China would do all in their power to retain the structure on its present site, irrespective of anything which may be done with regard to the rebuilding of the Bishopsgate Street front. Should it, however, be found impracticable to preserve the whole building intact my Council strongly urge that the Chartered Bank of India, Australia, and China should retain the hall in its present state as a portion of their premises.– I am, Sir, your obedient servant, W. J. LOCKE, *Secretary*.

It is now stated that Sir Horatio Davies, who has sold the site of the Hall to the Chartered Bank, has offered the ancient building itself to the Corporation, either to be re-erected elsewhere, if that be possible, or in order that anything of special antiquarian or archæological interest may be retained in the Guildhall Museum or some other suitable place.

THE University of Oxford have conferred the honorary degree of Doctor of Civil Law upon Mr. G. F. Bodley, R.A., *F.R.I.B.A., Royal Gold Medallist* 1899.

The Excavation of Memphis.

Sir W. B. Richmond, K.C.B., R.A. [*H.A.*], Professor J. P. Mahaffy, Professor E. A. Gardner, and Sir R. M. Hensley appeal on behalf of the British School of Archæology in Egypt for public support for the excavations the School are about to undertake at Memphis. In a letter to *The Times* published on the 26th inst. they say :—

One of the greatest capitals in the ancient world has been left untouched in its dust, although the ground is visited by thousands of tourists every year. Memphis, whose history extends over the whole course of Egyptian civilisation, has never yet been explored. It contained the finest school of Egyptian art, and in antiquity and wealth it was unrivalled. But most of it has gradually passed under the plough, and to rescue what yet remains is most needful before it further disappears. Great national undertakings, as of France in the clearing of Delphi, or of Germany at Olympia, can never be done under our form of government, which ignores such intellectual conquests. Scientific research by England is mainly a matter of public association; and it is to the public that the British School of Archæology in Egypt must look for the needful support of the excavations which it is going to undertake (by permission of the Egyptian Government) at Memphis.

The vast temple of Ptah, the temple of Isis, the sumptuous dwelling of the sacred Apis, the rich temple of Aphrodite in the Phœnician and foreign quarter—all these were the celebrated sights of Memphis in the Greek age; and beneath the ruins of some of these must lie the monuments of the beginning of the Egyptian kingdom, from Menes onward. The sites of these temples are plainly visible amid the mounds. The area of them is equal to the whole of Karnak, the southern capital of the land. It is known definitely where the search must be made for the statues, the sculptures, and the records of the oldest capital of Egypt. To clear the temple sites is estimated to cost about £3,000 a year for fifteen or twenty years. This, we hope, may be possible as a national enterprise; and, as half of the sculptures discovered will be granted by the Egyptian Government, it should reward any nation that undertakes the work. The greater scope, of the complete clearance of all the ancient capital, would require about half a million, and can hardly be hoped for unless supported by one of the great masters of industry or finance. But we trust that the ordinary British method of subscription—from the traditional guinea upward—will enable us at least to clear the metropolitan temples of Egypt, and not to feel ashamed in view of the splendid labour of excavation accomplished by other countries. To be obliged to invite the assistance of foreign support in this task would prevent our reaping the reward of the gratuitous labour given by Professor Flinders Petrie and his helpers.

The Secretary of the British School, at University College, London (Gower Street), will give any further information, at the exhibition of the discoveries of the present year, 1st to 27th July, held at the college, where also the publications given to subscribers may be seen.

The R.I.B.A. Examinations in South Africa.

"The Qualifying Examinations of the R.I.B.A. in South Africa" formed the text of a Paper recently read before the Transvaal Institute of Architects by Mr. G. A. H. Dickson [*F.*], a past President of that body. Mr. Dickson is Chairman of the Board which has been constituted in South Africa to conduct these examinations, the first of which is to be held in Johannesburg in the month of December next. Mr. Dickson considers the holding of the Institute Examinations in South Africa of importance not only to those directly connected with the architectural profession, but to all classes of the community. The Royal Institute requires a high standard of technical and general education in the young men seeking membership of its body, and the tendency in the same direction which is now spreading in South Africa is bound to work for good, and to result in time in the raising of taste in architecture throughout the whole of that country.

Some extracts from Mr. Dickson's Paper will be given in the next number of the JOURNAL.

Obituary.

Mr. JOHN CHARLES TRAYLEN, of Stamford, *Associate*, elected 1882, died on the 11th inst., aged sixty-two years. Mr. Traylen held the appointment of architect and surveyor to the dioceses of Peterborough and Lincoln, and his practice lay mainly in ecclesiastical work in the Midlands. Among his principal works were the restorations, rebuilding, or alterations of Bourne Abbey Church; St. John the Baptist's Church, Stamford; Manton Church, near Uppingham; the churches of Great Casterton, Langham (near Oakham), Lyddington, Wing (Rutland); in Northants: the churches of Nassington, Wessington, Stanion (near Rockingham), Wansford-on-the-Nene, King's Cliffe, Corby, Haddon, St. Lawrence, Stanwick, &c. He also carried out work at Barnet Parish Church and St. Peter's, Arkley, Middlesex; built the Church House, Barnet; the vestry of St. Paul's, Leicester, and school buildings, West Deeping. His designs were selected in competition for the Coronation Memorial at Stamford. Mr. Traylen had recently admitted into partnership his son, Mr. H. F. Traylen [*A.*].

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session 1906-07, held Monday, 24th June 1907, at 8.15 p.m. —Present: Mr. Thomas E. Collcutt, *President*, in the Chair, 25 Fellows (including 14 members of the Council), 21 Associates (including 1 member of the Council), 1 Hon. Fellow, 3 Hon. Associates, and numerous visitors—the Minutes of the Meeting held Monday, 10th June [pp. 559–60], were taken as read and signed as correct.

The Hon. Secretary announced the decease of John Charles Traylen, *Associate*.

The following Fellows attending for the first time since their election were formally admitted by the President—viz. David Theodore Fyfe, Philip Mainwaring Johnston, Sir Alfred Brumwell Thomas, John Alick Thomas.

The President delivered an Address on the Presentation of the Royal Gold Medal to Mr. John Belcher, A.R.A., *Past President*, and the latter having been invested with the Medal addressed the Meeting in response.

The President having announced that a Special General Meeting would be held Tuesday, 2nd July, to receive the Council's recommendations for the Revision of the Charter and By-laws, the formal part of the proceedings terminated, and the Meeting rose at 9 p.m.

INTERNATIONAL INTERESTS OF ARCHITECTS.

By John W. Simpson.

The practice of the art of architecture has been from the earliest times, and still is, in a degree unknown to that of its sister arts, implicated with Governments, corporations, and public bodies of all kinds; and these authorities, being rarely composed of, or influenced by, persons sensible of the consideration due to the art, are apt to show but scant consideration to the artist whom they employ. Writing as I do—though quite impersonally in this respect—from the standpoint of the artist himself, I am not here concerned with such shortcomings on his part as may be deemed by the said authorities to justify a despotic attitude on theirs. The point is that, unsupported, he is at a disadvantage, and apt—the cudgel-play of commerce being abhorrent to his peaceful habit—to submit to occasional oppression in the hope of a compensating tranquillity.

The need of mutual support by the members of the profession and the desire to advance their art by conferring and taking counsel with one another have, aided by improvements in transit and communication generally, led to the formation in recent years of National Societies of Architects in all civilised countries. The same causes in course of time moved the several societies to meet those of their sister nations in international congress, to the great benefit of all; and it is reasonable to expect that the fraternal sympathy with foreign artistic effort evoked by personal acquaintance and accord among its exponents will contribute to good understanding in other affairs and the avoidance of needless political brabbles. Goodwill is certainly next brother to Peace.

There have now been held seven of these International Congresses of Architects, in 1867, 1878, 1889, 1897, 1900, 1903, and 1906, the last four having been held in Brussels, Paris, Madrid, and London respectively, when hundreds of architects from all parts of the world met to discuss technical questions of importance.

A notable outcome of these Congresses has been the formation of an International Committee of Architects to regulate their proceedings. This "Comité permanent" consists of some eighty or ninety representative architects, elected by more than twenty different nations, and has its headquarters in Paris, where it meets at least once a year and more often when necessary. It will, in my opinion, develop before long into a very influential body, and become the Central Architectural Council. The value of such an authority for collecting, testing, and distributing information, organising and consolidating the material interests of architects, and chiefly, as I should hope, for setting an ever higher standard for their attainments can hardly be over-estimated.

In such an event I am disposed to agree that it would be advantageous for the Central Body to have its seat established among those of other similar corporations; and there can be only one opinion as to the possibilities of architectural magnificence to which such a collective scheme might give occasion.

A UNIVERSAL ENTENTE CORDIALE.

The idea of a universal *entente cordiale*, not only in matters political, but in other human concerns equally important, finds material expression in the proposal to create an international metropolis—a "Capital of the World," where, in the words of a Continental enthusiast, "would be concentrated the intellect of all nations, there to form in organised and continual co-operation the great focus of universal culture." The pioneers of this movement, two Dutchmen, Messrs. P. H. Eykman and Paul Horrix, in the review mentioned below, call attention to the present chaos of internationalism—its enormous development of strength, its enormous waste of strength. Organisations exist in every conceivable human interest—economical, political, moral, scientific, artistic; and international congresses may be counted by the score. For the most part, however, they are heavily handicapped through the want of permanent offices and of funds for the adequate preparation of their work and the completion of its results. It is proposed that a powerful international organisation, a universal league, should supersede separate individual effort and be authorised to take in hand all those interests which are capable of international treatment, with a view of protecting both national and individual interests. It is proposed to call this league "The Foundation for the Promotion of Internationalism." "It should be a moral body," say the promoters, "in which all the great minds of the world have their seat, and by means of which the systematic organisation of internationalism will be formed." They propose that this institution shall have its seat in The Hague, the city already chosen by the different nationalities as the city of the court of arbitrage. Here would be built the offices and buildings for all the multifarious purposes proposed to be dealt with.

The promoters have started a journal, entitled the *Review of Internationalism*, to serve as a medium of communication between those interested in the movement. English, French, German, and Dutch editions of the *Review* are to appear every two months. The first number, issued last April, has articles on the great scheme by Bjornstjerne Bjornson, Nicolo Van Suchtelen, Wm. T. Stead, and other well-known writers. Two Fellows of the Institute figure in this first number—Messrs. John W. Simpson and James S. Gibson. Mr. Gibson's article, "The Foundation of the World Capital in the Hague," has already been quoted in these pages (see JOURNAL, 1st June). Mr. John W. Simpson's contribution to the *Review* is reprinted above.

VIEW FROM THE TERRACE IN FRONT OF THE VILLA MEDICI, ROME.

VILLAS AND GARDENS OF ROME, TIVOLI, AND FRASCATI.

By William H. Thorp [*F.*].

Read before the Leeds and Yorkshire Architectural Society, 7th February 1907.

DOES anyone read the Journal of John Evelyn nowadays? Have the seventeenth-century records of the life and travels of this Englishman of cultured taste many points of interest for the student of to-day? In doubt as to whether the answer should be in the affirmative or the negative, a publisher's circular recently attracted my notice, informing me that a new edition of Evelyn's Life was in the press, edited by Mr. Austin Dobson, the modern essayist of the times of the Stuarts and Queen Anne. This would appear to settle the question; for it is thus evident that, like the immortal Pepys, Evelyn has still a circle of readers who are ready to be interested in his experiences and to be charmed with his notes of foreign travel.

But what, you may ask, has Evelyn and his Diary to do with the subject of my Paper? To this question let me reply that John Evelyn, the *arbiter elegantiarum* of his day, like many other young men of family completed his education by making the *grand tour*, and travelled for some time in Italy, spending several months in Rome and the neighbourhood. Of gentle birth, courtly presence, and refined taste, he was made welcome to the villas and palaces of the nobility. The galleries of pictures, the collections of antiques, and the villa gardens, with their terraces, statuary, and fountains, pleased him greatly, and his impressions are recorded at length in his Journal.

In May 1645 Evelyn visited Frascati, and a short quotation from his Diary for that month will serve as a suitable introduction to the descriptions of the villas of the Italian nobility which follow. He relates:—"We tooke coach, and went fifteen miles out of the Cittie to Frascati, formerly Tusculanum, a villa of Cardinal Aldobrandini, built for a country house, but surpassing, in my opinion, the most delicious places I ever beheld for its situation, elegance,

plentiful water, groves, ascents, and prospects. Just behind the palace (which is of excellent architecture), in the centre of the inclosure, rises an high hill or mountaine, all overclad with tall wood, and so formed by nature as if it had been cut out by art, from the sumit whereof falls a cascade, seeming rather a great river than a streame, precipitating into a large theatre of water, representing an exact and perfect rainebow when the sun shines out." To this villa of Cardinal Aldobrandini, then at the zenith of its beauty, designed for the prelate of that name by Giacomo della Porta in 1598, we shall afterwards return when the villas and gardens of Frascati again engage our attention.

The country residences of the Roman aristocracy of the sixteenth and seventeenth centuries—*maisons de plaisance*, as they are called by the French architects Percier and Fontaine, to whom we are indebted for a sumptuous monograph on the subject—may be said to have as their prototypes the ancient villas of the times of the Cæsars, with which they exhibit several similarities.

The villa of Pliny the Younger, a contemporary of the emperor Hadrian, is often quoted in this connection; but for our purpose, by way of change, we will refer to the description by M. Viollet-le-Duc, in his *Habitations of Man in All Ages*, of a villa supposed to have been built by a certain Mummius. It was situated near Lanuvium, now known as Città Lavinia, an ancient town situated on a western spur of the Alban Mountains, about ten or twelve miles to the south of Frascati.

The "villa" of Mummius comprised a large estate approached from the Appian Way. The low-lying portion on the fringe of the Campagna consisted of open fields cultivated by *coloni*, vineyards occupying the lower slopes of the hillside, and the house itself was backed by woods which clothed the acclivity in the rear. A watercourse was then, as in later Renaissance times, considered an essential adjunct of a property of any importance, and the Lanuvius, a stream which rises in the hills to the north, flowed through the estate on its way to the sea. The house—or *Casino*, as it is there called—was sheltered by means of rising ground from the cold north winds and from the westerly gales which blow from the sea. From the Appian Way the road or drive branched off, first skirting the gardens, and then approached the principal entrance gateway. On the further side of the stream was an extent of woodland, vines were planted on the south, orchards and kitchen gardens were in convenient proximity to the house, and the more private pleasure grounds were located on the northern slopes. Isolated from the house and approached by a covered gallery or promenade, a detached building, a summer-house or retreat, was provided for the proprietor when he desired freedom and privacy. At the back of the gallery was an annexe reserved for the use of the slaves engaged upon household duties, whilst the labourers on the estate were accommodated in a building close to the entrance gate. A shed for the oil and wine presses completed the equipment of the estate.

If we examine the plan of the house in detail,* we note at the outset its compact and symmetrical arrangement and the opportunity given for architectural effect. A large *cortile*, or inner court, open to the sky, with covered colonnades around which the principal rooms of the house are grouped, forms the keynote of the plan. It is approached in the first instance, through a vestibule, long and barrel-vaulted, with semicircular ends. An inner smaller vestibule, flanked on either side by the porter's rooms and a waiting-room, conducts to a hall, or *atrium*, adorned with columns, with an *impluvium* in the centre, which in its turn opens upon the large internal court. The central feature of the *cortile* is a fountain, surmounted by a bronze statue, and at one end is a semicircular white marble seat

* See Viollet-le-Duc s *Habitations of Man in All Ages*, fig. 69.

on a raised platform facing the south, called an *exedra*, where persons may rest and bask in the sunshine.

Crossing the court and passing through an inner vestibule, the large *triclinium*, or dining-room, is reached, which provides accommodation for a large company of guests. The principal apartment of the house, it is treated in a decorative manner. The angles are canted, enclosing niches in which sculptured nymphs pour water into porphyry basins. Large arcaded openings on three sides of the apartment give beautiful prospects of the surrounding country. They are divided by marble columns supporting entablatures, with pilasters above, which run up to the arched soffits. Grilles of delicate metal-work in bronze fill in the upper lights. The ceiling, which is of wood delicately painted in subdued shades of colour, is arranged in coffered compartments, and is supported by eight large wood brackets, elaborately carved, which spring from the angles of the octagon. Marble mosaic of pleasing colour and design is the material used for the floor, and completes the decorative scheme.

A pantry separates the large *triclinium* from a smaller one devoted to family use, and the corresponding position on the north-east is appropriated by a library with a vaulted roof. A circular room with a domed ceiling, lighted from a circular opening in the roof, provides a delightful refuge during the heat of the day.

In ancient times bathrooms were an indispensable adjunct to a villa of any importance. Here they comprise a *frigidarium*, containing a large basin of cold water, two small rooms for hot vapour, and a further room fitted up with a tepid bath. The kitchens and some bedrooms complete the accommodation provided on the ground floor, and additional bedrooms are to be found in an upper story which is raised over the whole of the north-west wing.

Externally, the elevations of the house are treated very simply. The entrance front is essentially plain in character. That to the rear, with the *triclinium* wing forming a centre, is of rather more importance ; but the decorative features are largely reserved for the interior of the house. In these characteristics the villa or palace of the Renaissance has much in common with those of the ancients, showing the force of tradition and the continuity of racial customs.

Before passing on brief mention must be made of the owner's summer retreat, which has already been incidentally referred to. It comprises a small dining-room, a miniature library, a room facing the south, and two or three bedrooms. The view it commands is one of great beauty. The long stretches of the Pontine marshes are unfolded below like the sea, green in spring and amethystine in autumn, whilst the real ocean itself glitters like silver in the distance.

From the days when Mummius enjoyed his country life at Lanuvium, after retiring from his arduous military duties under Augustus Cæsar, to those of the Renaissance an interval of fifteen hundred years has to be bridged. The prospect he delighted in and the sunny landscape are doubtless much the same as of yore ; but the house and its contiguous dwellings have disappeared.

At no great distance, on the hilly slopes below Tusculum, stood the villa and gardens where Lucullus entertained his guests with such lavish hospitality. Taking its place is now to be seen the Villa Torlonia, its stately groves, sparkling fountains, and terraces wreathed in roses, recalling the ancient glories of bygone times.

Crossing the plain from the Alban Hills to the Sabine Mountains, the villa of Hadrian has left traces only whereby to indicate its former magnificence. Its gardens are still a delight to the eye, but most of its sculptures and artistic remains have gone to enrich the galleries of the Capitol and the Vatican. In Papal times it has been succeeded by the Villa d' Este, which occupies a commanding site farther up the vine-clad hill, on the outskirts of

Tivoli. Beautiful in its old age, it in its turn is no longer occupied, and is now falling into a condition of picturesque decay.

If we again cross the Campagna and wend our way to imperial Rome, the city on its seven hills, we find that ruin has overtaken the palace of the Cæsars on the Palatine. The later palaces of the Renaissance, however, still remain in much of their former condition to bear witness to the wealth and luxury of patrician families bearing famous names, ennobled and enriched by successive occupants of the Papal Chair.

Leaving classical times behind and devoting ourselves henceforth to the country house and its garden of the Renaissance, it may be well, before describing any villa in particular, to take note of the general characteristics that pertain to Italian villas as a class. More often than not they are built on a hillside. This afforded the architect an opportunity to place his house in a fine position for effect, and for so arranging his terraces, avenues, and balustraded flights of steps as to enhance its attractions, just as a jewel often owes much of its beauty to its artistic setting. The garden setting, in truth, is sometimes so elaborate in its devising that it outvies in importance the villa itself. He realised at length that, in the disposition of the house with its grounds, nature and art could be happily blended. He knew how to profit by the nature of the site and to make the most of it, not by treating the garden as a landscape, but on the contrary, by making the site, the landscape, into a garden. As Percier and Fontaine justly remark, "it is art which has adorned nature, and not art which has wished to create it."

In the architect's opinion, the gardens adjoining the house required laying out in a formal manner, in sympathy with the architectural lines of the structure. By an artistically managed progression they, in their turn, as they withdrew from the villa lost something of their conventional character as they linked themselves with the outlying orchards and kitchen gardens, or by means of alleys shaded from the sun and sheltered from the wind led the way to a grotto, garden house, or artificial cascade.

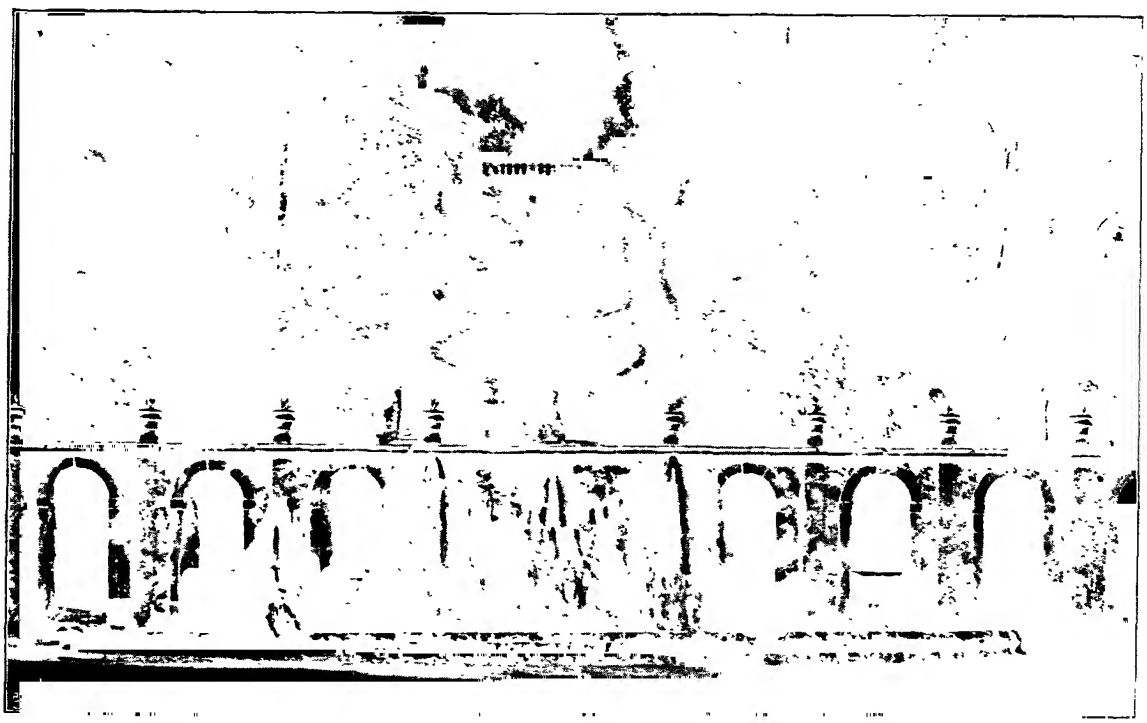
The transition from the semi-artificial to the natural, from the garden to the surrounding countryside, was the next step in the progressive scheme. To effect this, avenues bordered with ilex or cypress provided vistas commanding, it may be, extensive prospects of the Campagna below, or otherwise some pleasing feature of interest, be it wooded hill, ruined temple, or the distant sea.

The old Italian gardens were planned for outdoor life. They were the scene of family gatherings, of garden parties, and of occasional *fêtes-champêtres*. Quoting from an American authoress, to provide for these requirements "the grounds were as carefully and conveniently planned as the house (with broad paths in which two or more could walk abreast), leading from one division to another, with shade easily accessible from the house, as well as a sunny sheltered walk for winter, and with effective transitions from the dusk of wooded to open flowery spaces, or the level sward of the bowling green." "It should be remembered that the terraces and formal gardens adjoined the house, that the ilex and laurel walks beyond were clipped into shape to effect a transition between the straight lines of masonry and the untrimmed growth of the woodland to which they led, and that each step away from architecture was a nearer approach to nature."

Strange as it may appear to us, the cult of flowers and the brilliant effects of colour to be obtained thereby did not form an important feature in the Italian gardener's decorative scheme. Accounting for this we are told that in the sunny south the time of flowers is soon over, and that when spring, with its annual festival of blossom gives place to summer, the ground rapidly becomes parched and the flowers wither away. This statement is but partially true, and if true was capable of a remedy, the fact remaining that the garden architect

relied for his effects on other means than those afforded by the massing of vivid colour or carpet-like flower beds.

Taking their place, a parterre is often introduced. This is overlaid with arabesques of intricate geometrical design, outlined with borders of clipped box enclosing bands of flat mossy growth or coloured earth, not unlike in appearance to appliqué embroidery. Benches of marble border the avenues at intervals; and statues, vases, and relics of antique sculpture stand out in sharp relief from the sombre background of cypress or evergreen oak. Here and there a note of colour appears in the huge jars of red earthenware which are set out in May with lemon and orange trees; and pools of water and plashing fountains help to diversify the scene, and serve to refresh the atmosphere and mitigate the midday heat.



CASCADES, VILLA TORLONIA, FRASCATI.

Nothing, probably, impresses the visitor more than the variety imparted to the gardens by the introduction of water for adding to their charms and enhancing their beauty. In motion, coursing rapidly down narrow channels and falling in cascades into mossy basins, then springing up again into graceful fountains; or, in repose, with mirror-like surface, reflecting the verdure and sky in many a placid canal and pool, water is a factor making for beauty which cannot be ignored.

In many cases the hydraulic engineer was a man of renown, and in much request, and ranked in equal importance with the architect. By his ingenuity water was engaged to perform many offices, some of a serviceable character and others of a more fanciful nature, which, pleasing to the age in which they were designed, have now lost some of their original attractions.

Leaving the gardens for a while, we will now approach the house, the central feature around which all else is grouped. Here it may be well to state that the term "villa," in the

Italian sense of the word, is not applied merely to the country house itself, but it includes the whole of the estate, with its vineyards, olive plantations, and gardens. The house—the villa in the English sense—is called the *casino*, but in the following descriptions the word "villa" will be used to denote the habitation only.

The villas of the Renaissance which have been selected for purposes of review belong for the most part to the sixteenth and seventeenth centuries, when architecture had lost much of its original purity. As practised by such men as Carlo Maderna, Borromini, and Bernini, it was characterised generally by an absence of restraint; a quality which, if in some cases it imparted a picturesque aspect, yet, on the other hand, was lacking in dignity and repose.

This applies more particularly to some of the churches in Rome, designed by these architects and their school, and not so much to the country houses of Tivoli and Frascati, which, on the whole, are free from exuberance of fancy; and the influence of the *rococo* is more noticeable in some of the features of the garden decorations, where it is not so much out of place.

The country house, or Italian *maison de plaisance*, did not usually demand the extensive accommodation of the *palazzo* in the city; hence it was planned on a smaller scale. Its arrangement of rooms was simpler, and did not, as a rule, comprise the extensive suites of apartments considered necessary for the nobleman's town house. As befitted its situation in the suburbs or country, an airy and cheerful aspect was desired and secured by means of loggias, open arcades, and lofty rooms, with balconies giving upon the country landscape.

A common type of plan is a simple oblong comprising an entrance loggia, with a vaulted roof, opening upon a large central saloon, surrounded by a ring of rooms arranged *en suite*—the continuity interrupted by an occasional vestibule, ante-room, or staircase, but with a complete absence of corridors. If, as in many cases, the villa is built on the hillside, the principal floor is approached from the upper ground level, or otherwise by important flights of steps from the lower slopes, and is elevated on a basement story used for domestic purposes.

Externally the entrance loggia is often roofed in at the level of the first floor; and above this the building in its upper stories assumes the shape of a recessed centre with two projecting side wings—an arrangement of grouping which provides good effects of light and shade. In other examples the villa is elevated all round on a basement stage or ground-floor story of solid character with heavily barred windows. The principal rooms are situated on the first floor, or *piano nobile*, with a central saloon again forming the keynote of the plan. This was a favourite arrangement with Palladio, Vignola, and Scamozzi, and was often adopted for their country seats. We shall find that examples or varieties of the types of plan mentioned will shortly be met with in the villas selected for description.

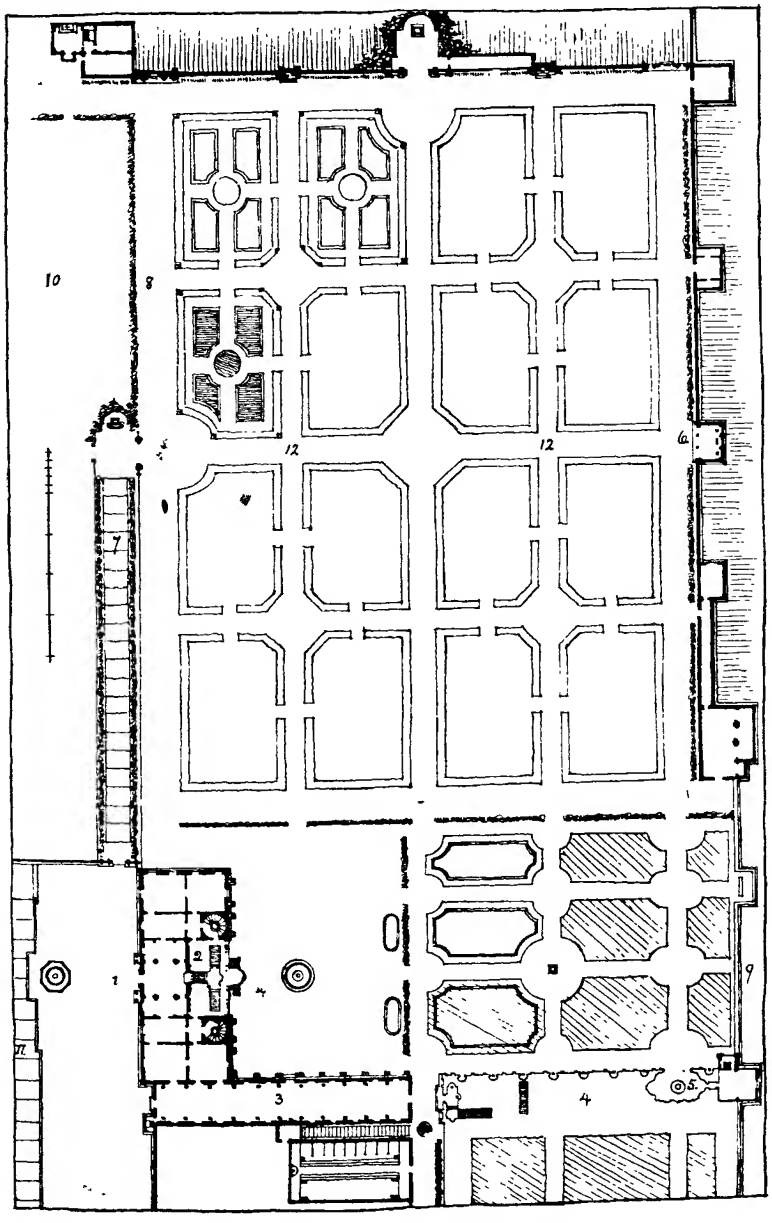
Before crossing the Campagna to the Alban or the Sabine Hills, let me draw your attention to two villas of Rome, both situated on the Pincian Hill, one, the Villa Medici, within the walls, and the other, the Villa Borghese which it overlooks, just outside.

There are other villas in Rome worthy of mention. The Villa Albani, not far away, near the Porta Salaria, with its Winckelmann associations; the Doria Pamphili, in the opposite direction, beyond the heights of the Janiculum; and the Villa di Papa Giulio, designed by Vignola, and situated beyond the Porta del Popolo, are all three of great interest. But a limit must be drawn, and the two selected for notice may be looked upon as typical examples.

There is no one familiar with Rome but knows the Spanish steps which climb the hill from the Piazza di Spagna to the Church of the Trinità di Monte, which crowns its summit. Leaving the brilliant flowers massed at their base and passing the persistent artists' models clad in *contadini* costume who haunt the steps, the piazza, with its central obelisk in front of the church, is eventually reached; then turning to the left, and skirting the walls of the

adjoining convent, a few minutes' walk through an avenue of evergreen oaks soon brings the visitor within sight of the entrance of the Villa Medici.

As seen from the road, the villa has little to display in the way of architectural adornment. The building rises from a solid-looking basement with bastion-like walls, relieved only by the central doorway opening into the vestibule, and ranges of small heavily barred windows on either side. Its upper stories also are plain to a degree, and require all the aid given by the projecting cornice at the eaves, with its belt of shadow beneath, which here, as elsewhere, adds so much to the effect of all Italian houses. It has undergone but little alteration since



PLAN OF VILLA MEDICI AND GARDENS, ROME.

From C. Percier and P. F. L. Fontaine's *Choix des plus celebres Maisons de Plaisance de Rome et de ses Environs.*

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its erection from the designs of Annibale Lippi about the middle of the sixteenth century, when it was built for Giovanni Ricci, of Monte Pulciano, who was elevated to the cardinalate by Pope Julius III. At a later date it came into the hands of the Medici family, from whom it takes its name, and afterwards was the property of the Grand Dukes of Tuscany. Finally, it was ceded to France in 1801, and became the headquarters in Rome of the French Academy of Art, which was founded by Louis XIV., and it still fulfils that purpose.

At one time the interior of the villa possessed many attractions, and contained several valuable works of art, which, under the direction of one of the Grand Dukes, were removed to

VILLA MEDICI, ROME: GARDEN FRONT.

Florence. The sculptured groups representing the fable of Niobe, the Venus de' Medici, and the bronze Mercury of John of Bologna were amongst its treasures, in addition to many other priceless antiques. These were all transported from their former resting-place before the property came into the hands of Napoleon, and a collection of casts, chiefly of Greek sculpture, provided for the use of the students, has now taken their place.

Happily, the garden façade of the villa was not despoiled of its adornments when the interior suffered mutilation. This interesting architectural composition, with its charming central loggia, its twin belvedere towers rising at either end of the roof, and its cheerful aspect,

makes up in richness for the austere plainness of the western front. Carved panels in bas-relief and other relics of antique sculpture symmetrically arranged are built into the walls, giving an effect of elaborate surface decoration. This is probably the earliest example of a fashion which afterwards met with much favour, and was followed in the enrichment of other country houses.

VILLA MEDICI, ROME: THE GARDEN FROM LOGGIA.

From plans prepared by Falda in the seventeenth century, and much later still from others drawn by the French architects, Percier and Fontaine, we notice that the gardens as originally designed have met with little or no alteration, and we see them now in much the same shape as that of the days in which they were first laid out. Time has touched their balustrades and marbles, bringing them into harmony with their setting of perennial green; the hedges of clipped box are thicker, and the trees have grown to their full stature; but otherwise there is little change.

In their arrangement the gardens follow the method of studied progression already described. Facing the house we have the equivalent of a forecourt, adorned with fountains and statues symmetrically disposed, and bringing it into relation with the architectural lines of the villa. Sheltered walks between clipped hedges then emerge, leading to circular spaces where the pathways intersect, set out with low stone seats and marble termes; and further still are vistas of the landscape outside the lofty city walls, the Sabine Hills appearing in the distance. An elevated terrace walk with a balustraded parapet forms an offshoot from the house, and skirts the estate on its southern side. This overlooks the garden, affording delightful prospects of its many beauties, and serves in its turn to roof in the alcoves and grottos with which it is honeycombed below.

It was in these gardens that, as Marion Crawford tells us, "the fashionable Romans of the seventeenth and eighteenth centuries used to meet and walk, and be carried about in gilded sedan-chairs, and flirt and gossip, and exchange views on politics and opinions about the latest scandal." How the scene would have appealed to Watteau had he been able to carry out his long-cherished plan of a visit to Italy! What better spot could he have selected as a stage for his incomparable groups of fashionable folk, of exquisitely dressed ladies, with their attendant cavaliers, gay and light-hearted, leading a butterfly existence! But if Watteau had to content himself with France, and let the verdure of the Luxembourg form the background of so many of his *tableaux*, the garden of the Medici has provided subjects without number for the brush of other painters. Its charms have never been dispelled. From Claude to Fragonard, and from Velasquez to Longhi, artists of all nationalities have lingered in its alleys and sunned themselves on its terraces, with the result that there is hardly a collection in Europe of any importance without a canvas representing some favourite view of the Villa Medici.

From the gardens just described to the extensive park-like grounds of the Villa Borghese is but a step—a step in descent, however, which it would be rash to take, for the two estates are separated by the lofty city walls. Two handsome gateways—one on the west, near the Porta del Popolo, and another on the Pincian Hill, adjoining the ancient Porta Pinciana—give access to the Borghese gardens, which with the park are of considerable extent, and are said to be three miles in circumference.

The original villa (or *casino*, shall I call it?) was built for Cardinal Scipio Borghese, early in the seventeenth century, from the designs of Giovanni Vasanzio, an architect of Flemish extraction; but it was entirely rebuilt in 1782. It then lost some of the picturesque qualities which marked the earlier structure. But although the present building is designed on formal lines, and has a somewhat trim appearance, its *rococo* window dressings of the upper story over the loggia, and the oval niches decorated with portrait busts with which the wall panels are relieved, impart a certain festive air befitting a lordly pleasure house.

The external walls are faced with stucco, and the stone used for architectural features is the cream-coloured travertine which has been employed so largely in the buildings of Rome. In speaking of stucco, let it be understood that I do not mention it here in any disparaging sense. Whatever may be said in its dispraise when used on English soil, in Italy it has a distinct character of its own. Whether the sun has baked and ripened it, or whether the mortar and sand of which it is composed have some special quality making for agreeable surface texture, I cannot say; but, truth to tell, the mellow tones of old ivory or pale amber which it assumes on many an ancient edifice give one a sense of æsthetic pleasure and disarm all criticism.

The Villa Borghese was purchased in 1902 from the family who had owned it for upwards of three hundred years, and it is now the property of the city of Rome. The palatial residence

has been converted into a museum and picture gallery: a purpose for which it is admirably suited. The plan is simple and follows the customary type: an open arcaded loggia approached from a flight of steps, and a large central saloon with rooms or galleries *en suite* surrounding it. The decoration of some of the apartments is very elaborate—marble pavements, pilastered walls, framing niches, and statuary and sculptured panels, with vaulted ceilings painted after the manner of Raphael's *Loggie* of the Vatican, producing in combination an effect of much richness.

The collection of pictures is one of great value, and ranks next in importance in Rome to that of the Vatican itself. To single out one only of its treasures and masterpieces, to select a picture transcending all others in its appeal to the imagination to carry away in memory, surely our preference would be given to Titian's superb so-called "Earthly and Heavenly Love," one of his early works painted under the influence of Giorgione, graceful in composition and beautiful in its golden colour. It is a temptation to revel amidst the world of beauty created for us by the genius of some of the finest painters the world has ever known; but pictures, excepting those provided by the skill of the architect, aided by the happy efforts of Nature herself, are not my present theme.

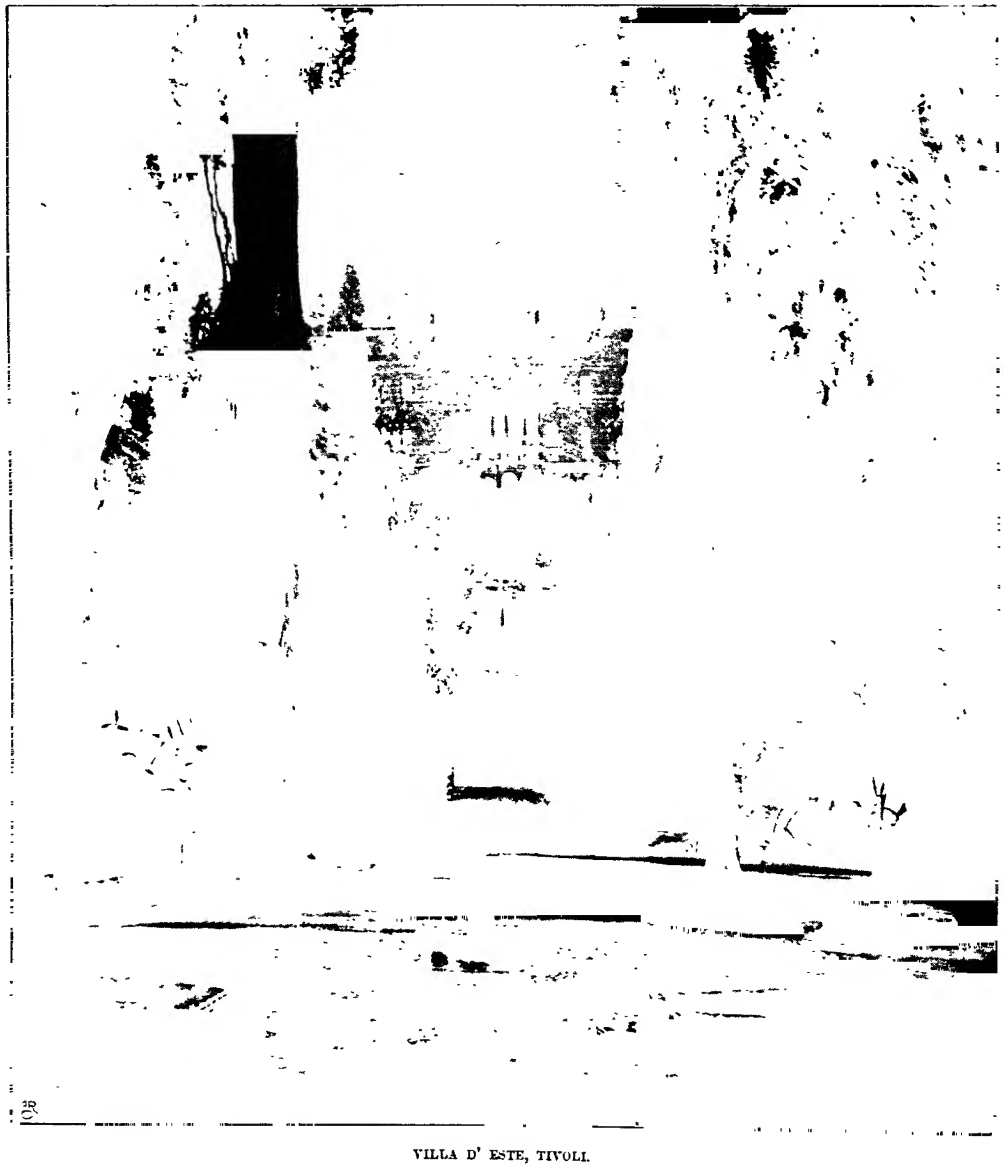
Let us therefore descend into the gardens. They present in their design an interesting combination of the old formal character of the Renaissance and the landscape type of English origin, which flourished at the end of the eighteenth and the beginning of the nineteenth centuries. A *jardin anglais* was then all the rage. In the immediate proximity of the villa we have, on the one hand, the fine rectangular forecourt, with its balustraded enclosing walls, marble seats, statues and fountains, and the two symmetrical small private gardens adjoining the house; on the other, the characteristics of an English park, with its undulations, winding roads, plantations, avenues and pathways, the scene diversified by artificial ruins, *tempietti*, relics of ancient sculpture, and other attractions, which, whether we approve or not, do succeed in adding to the charm of these delightful grounds.

An important feature of the estate, the *giardino del lago*, was formerly the private garden of the prince. It occupies an enclosed space near the western boundary, and is laid out in a formal manner with numerous pathways and beds planted with flowering shrubs. Its central avenue provides a charming vista, terminating in a small artificial lake, reflecting in the mirror of its placid waters the projecting portico of a temple—a model in miniature of some ancient shrine.

With the populace the park is a favourite place of resort, and the particular note it strikes is one of gaiety and cheerfulness. In the season fashionable Rome drives in the Corso, then ascends the hill of the Pincio, where in the afternoons a military band discourses music, sometimes sweet, sometimes strident, on the terrace overlooking St. Peter's, and afterwards finish with a round of the Borghese. Once a week it varies its programme and drives in the opposite direction beyond the Janiculum to the Villa Doria Pamphili, with its equally beautiful though less frequented grounds. But the Borghese being easily accessible, and always open to the public, is the more popular of the two. It is never without its lively groups of people. Equestrians, pedestrians, the military in their bright uniforms and gleaming helmets, troops of youthful priests in black cassocks with coloured bands floating from their sleeves, the black occasionally giving place to brilliant scarlet, and monks in black or brown with sandalled feet, frequenting the roads, pathways, and sunny glades, contribute to a scene of much variety.

One portion of the grounds owes much of its attractiveness to the belt of stone pines which fringe the further side of an oval stretch of turf known as the Hippodrome. With their lengthened trunks uplifting sombre masses of dark green foliage to the sky, they impart an

air of solemnity to the vicinity which even the happy concourse of children, who make a playground of the greensward beneath their shade, does not entirely manage to dispel. But this impression is only one among a number of others of a more joyful character, and by virtue of contrast serves to heighten the brightness of the landscape.



VILLA D' ESTE, TIVOLI.

From Rome to Tivoli, a little town of great antiquity, is a distance of eighteen miles. It lies to the north-east, and its cluster of dwellings, ancient and modern, crowns one of the outlying spurs of the Sabine Mountains. A place of historic interest, it has numerous associations with the past. In ancient days it was a favourite summer resort of the Romans, and the emperors Augustus and Hadrian founded villas there. Possessing much natural beauty and situated on the summit of abrupt cliffs, it is renowned for its cascades, which

descend in silvery sheets of water to the valley below. The circular ruined temple of the Sibyl, perched on a crag above the roaring torrent, makes a further addition to the picture, which has been portrayed on canvas times without number. It has, however, other attractions still, and chief of these is the Villa d' Este, a palace of the Renaissance which lies in another quarter of the town, where the hill assumes a gentler slope as it declines through plantations of olive to the Campagna below. To describe the beauty of its gardens and to paint them in their proper colours would require the pen of a poet, and words fail to convey an adequate idea of the subtle sensations they create by their infinite variety and loveliness. Commenced about the year 1540 by a Cardinal Bishop of Cordova, the villa was afterwards enlarged by

VILLA D' ESTE, TIVOLI: INTERIOR.

Cardinal Ippolito d' Este from the designs of Pirro Ligorio, and the celebrated hydraulic engineer Orazio Olivieri was responsible for the elaborate manner in which the waters of the Anio, in their architectural setting, are utilised to decorate the grounds.

The palace received further embellishment at the hands of other members of the illustrious family who owned it: but the huge structure, "planned to house a cardinal and his guests, including, it is said, a suite of two hundred and fifty gentlemen of the noblest blood of Italy," was never completed, and, with the single exception of the fine central loggia on the side overlooking the gardens, is singularly devoid of architectural expression, save that imparted by its mass and the length of its principal façade.

Separating the main building from the piazza of the little town is a courtyard with open arcades which has to be crossed, and from one corner of the ambulatory a spacious internal staircase descends to the principal floor—the *piano nobile*—of the northern front. It consists

of a long, dismantled suite of rooms, with frescoed walls and vaulted ceilings, still in a fair state of preservation. Running parallel with them is a corridor, lighted from the roof, with one of its walls built against the hillside. It is decorated with arabesques of shell- or pebble-work—a popular mode of ornamentation of the day—and with grottos and fountains. The central room of the suite opens upon the loggia already mentioned, which is in reality a portico of two stories, with stairs on either side, conducting to the upper terrace of the gardens.

The grounds of the Villa d' Este are an excellent example of the hillside treatment in garden design. A central avenue from the foot of the hill, ascending to the portico of the villa, forms the keynote of the plan. Bordered with towering cypresses, it climbs from stage to stage, from terrace to terrace, each with its accompanying feature, its fountain, or its circular parterre, set round with statuary and marble benches. Flights of steps, bordered with little rivulets which flow in cascades at their side, rise from level to level—here in straight ascents, there in graceful curves. Grottos, temples dedicated to mythological divinities, and pavilions enriched with stucco ornament close in the terrace walks as they approach the lateral boundaries.

It may be admitted that some of the decorative accessories of the gardens are open to criticism, and that good taste has sometimes been sacrificed to artifice. For example, it would be difficult to defend on æsthetic grounds the puerile imitation of an antique Roman town represented by a group of Liliputian buildings, which, surrounded by greenery, form the terminal feature of one of the terraces.

But when all has been said of these minor defects, and of the debasing influence of the *baroque*, which has made itself felt, it must be confessed that they do not obtrude themselves unduly on our notice, and that they are completely overpowered by the grandeur of the gardens as a whole. Their grandeur is impressive—a quality largely due to the mysterious depths of shade under the ancient trees associated in our minds with places of sepulture. This pensive aspect is to some extent dispelled by the brilliant sunlight which illuminates the fountains and turns to amber the stuccoed front of the villa.

To sum up their charms, I cannot do better than adopt the words of a writer describing them one hundred years ago, which are still largely applicable at the present day :—"The gardens of the Villa d' Este completely reunite everything that the beauty of the site and the charm of art are able to present in their most agreeable form. Neglected as they are, and deserted by their owners, they have lost but little of their ancient magnificence. The silence even which reigns in this delicious retreat seems to contribute to its effect, and adds to the agreeable sensations which its aspect engenders."

Returning to Rome, if we climb the slope of the Janiculum Hill to the piazza in front of the Church of San Pietro in Montorio we shall be rewarded by the magnificent view it commands of the city and the surrounding country for miles around. Looking in a south-easterly direction, we see the Alban Mountains in the distance, with the peak of Monte Cavo, an extinct volcano, sharply outlined against the horizon. To its right, and occupying a northern slope of the hills, the houses of Frascati, backed by the heights of ancient Tusculum, may be observed. Should the day be fine, and the proper hour selected, the eye will be attracted by the glittering rows of lights proceeding from one of the largest villas, fifteen miles away—the Villa Mondragone—caused by the sun as it declines illuminating the windows with a brilliance as if reflected from the facets of a diamond.

The district of the Alban Hills in which Frascati is situated is one of great natural beauty, and the ring of little towns bearing historic names crowning the uplands enclose the Lake of Albano and the smaller Lake of Nemi. The latter is the more beautiful of the two, and its placid waters in their oval basin reflect the vine-clad slopes and the tower of the

ancient *Castello* of the Colonna. The fascinating charms of the neighbourhood have long been appreciated. In the middle of the eighteenth century, when landscape art was but little cared for in England, they appealed to the critical eye of Richard Wilson, R.A., who made them the subjects of several pictures painted during his six years' stay in Italy. One of them adds to the attractions of the National Gallery, and others have been seen in recent winter exhibitions at Burlington House.

If in Rome, do not miss the opportunity of paying a visit to this delightful region. It is easily accessible, and will well repay you. Failing this—to readers of fiction—let me recommend a perusal of Mrs. Humphry Ward's *Eleanor*. In its early pages the plot of the story centres in Albano, which is described with intimate knowledge and sympathy, and the episode of the "priest of Nemi" there introduced is a picture in words of much power and pathos.

Frascati is a town of villas rising above olive-yards, which, with their particular tone of grey, encircle the hilly slopes as if with a girdle of misty vapour, from which the houses emerge sharp and distinct in their crisp outlines. It possesses a cathedral church dedicated to San Pietro, which contains a memorial to Charles Edward Stuart, the Young Pretender, who died there; but of more present-day interest are the groups of country people to be seen on Sundays in their picturesque costumes of orange, brown, indigo, green, and dusky purple, blended together in harmonious shades as they stand or kneel at the celebration of Mass.

Of the villas, that of the Aldobrandini family is the most renowned, and owes much of its effect to the beauty of its situation. You will remember that the visit paid by Evelyn in the seventeenth century served as an introduction to the subject of this Paper, and to his description of its gardens we shall afterwards return. It was built by Cardinal Pietro Aldobrandini, a nephew of Pope Clement VIII., in 1598 from the designs of Giacomo della Porta, who did not, however, survive to see its completion. It, again, like the Villa d' Este, is a typical example of the hillside arrangement of the period, and like it, also, is noticeable for the elaborate way in which water in streams, cascades, and fountains is introduced to give variety and add to the general effect. These remarkable creations for which the villa is celebrated owe their inspiration to the genius of Giovanni Fontana.

The principal entrance to the grounds is of picturesque design, and is situated at the foot of the hill adjoining the piazza at the gates of the little town. Looking through the iron grilles, we see the gardens rising fanlike to the summit of the hill, with the villa on a terraced platform occupying a commanding position midway in the incline. Three avenues, shaded by large trees, enclosing parterres, conduct to the first terrace. A fountain forms its central feature, and on either side double flights of steps with curved ramps ascend to an oval platform or circus at the foot of the walls of the upper terrace upon which the house stands.

Before entering the villa, let me complete the description of the gardens as they ascend the hill at its rear. A rectangular court runs parallel with its eastern front, and opposite its central doorway is an architectural structure which buttresses up the hillside above. It consists of a semi-circular recess with lateral wings, adorned with niches, curiously devised statues, and a water theatre, the whole forming an extraordinary and unique spectacle.

Evelyn was enchanted with this *tour de force*, and his quaint notes are in keeping with the unusual character of the achievement. With your permission I will make use of them. He says:—"Under this [cascade] is made an artificial grott wherein are curious rocks, hydraulic organs, and all sorts of singing birds moving and chirping by force of the water, with several other pageants and surprising inventions." "In the centre of one of these rooms rises a coper ball that continually daunces about 3 foote above the pavement, by virtue of a wind conveyed secretely to a hole beneath it; with many other devices to wett the unwary

spectators, so that one can hardly walk a step without wetting to the skin." "In one of these theatres of water is an Atlas spouting up the streame to a very great height; and another monster makes a terrible roaring with an horn; but above all, the representation of a storm is the most naturall, with such fury of rain, wind, and thunder, as one would imagine oneself in some extreame tempest."

Most of these ingenious devices for pleasing the guests of a cardinal of the seventeenth century are fallen into desuetude, but in their present state of picturesque decay appeal more directly to the artist than if they were still in the bravery of their pristine powers and novelty.

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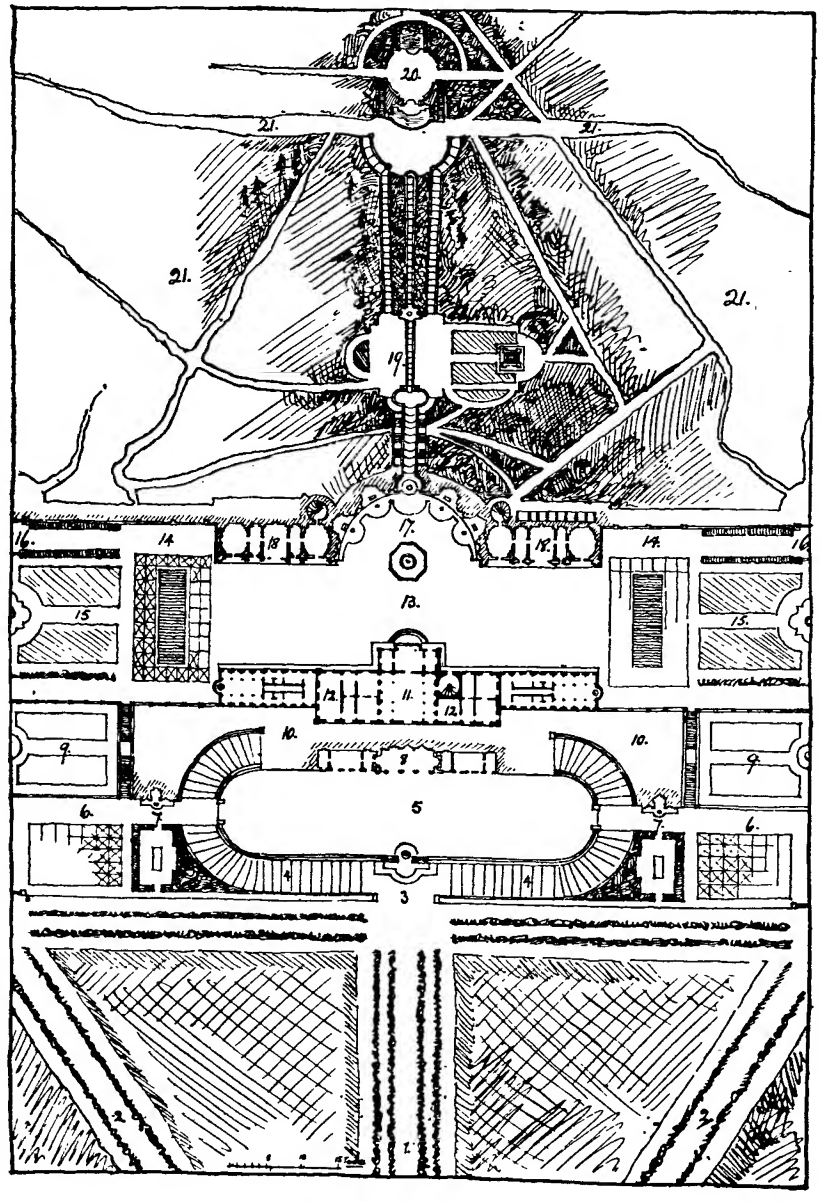
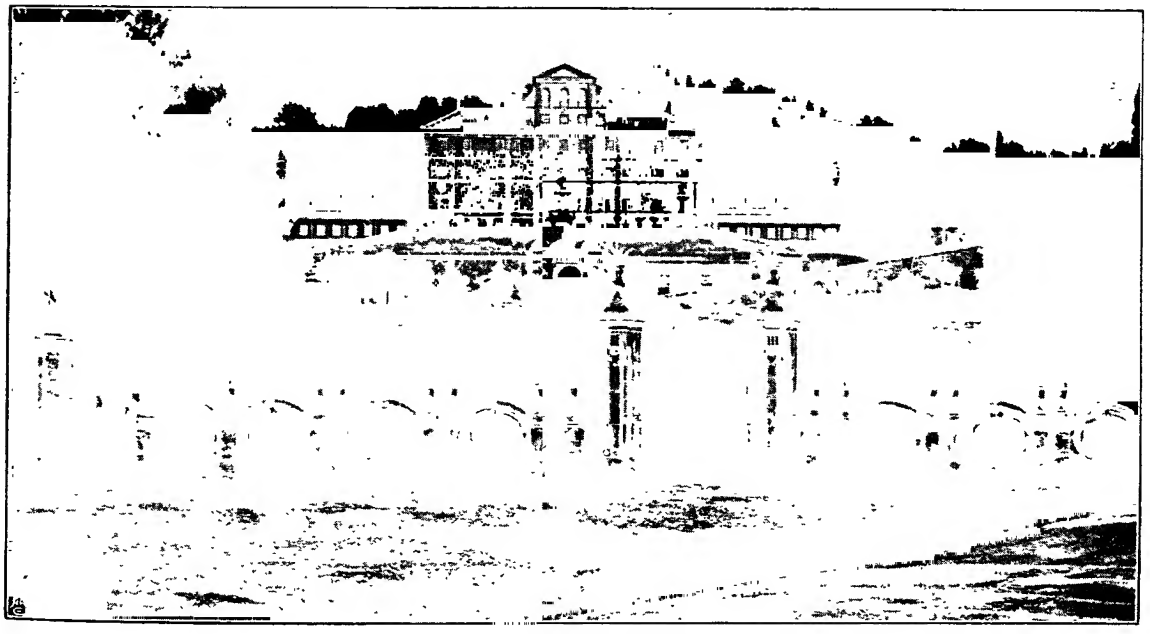


PLAN OF VILLA ALDOBRANDINI AND GARDENS, FRASCATI.

From C. Percier and P. F. L. Fontaine's *Choix des plus célèbres Maisons de Plaisance de Rome et de ses Environs.*

Tracing the watercourse further up the hill, we find the channel passing between two twisted columns with swallow-tail crenellations, and higher still, after crossing a wooded alley, we meet with a cascade falling from the summit of a rococo façade containing rustic figures in niches flanked on either side by steep flights of steps which lead to the forest above.

Leaving the gardens the villa now claims attention. It consists of a central block with low lateral wings, faced externally with stucco, with a sparing use of stone for architectural features. A central gable rises above the low roof, and the angles of the building are terminated with half pediments, which, although they cannot be defended from the point of view of the purist, do not materially detract from the design.



VILLA ALDOBRANDINI, FRASCATI.

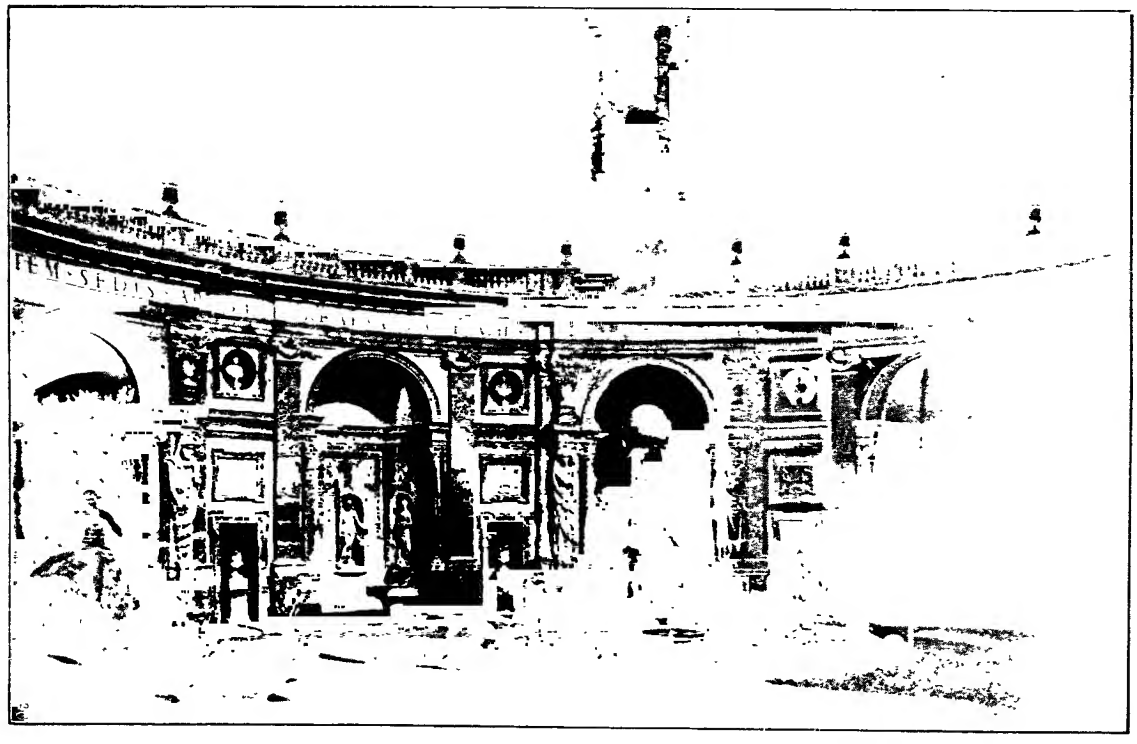
The principal floor is approached from the court at the rear, but owing to the fall of the ground it is elevated in front above a terraced basement stage, which adds to the dignity of the elevation. A *salone*, or large interior hall, is the leading feature of the plan, and opening from it the principal reception-rooms are grouped *en suite*. Corridors (which form so important a feature of English planning), excepting in the low domestic wings, are practically non-existent.

Throughout there is an effect of spaciousness, of coolness, imparted by the use of polished marble, and of a certain austerity from the scarcity of furniture and lack of carpets, in truth a delightful shelter from the scorching rays of an Italian summer sun ; but in winter—what shall I say ? Well ! Give me an English interior with its cosy fireside, such an interior as Cowper writes of in his poem "The Task," where, describing a winter evening, he says :—

> "Now stir the fire, and close the shutters fast;
> Let fall the curtains, wheel the sofa round;
> And while the bubbling and loud hissing urn
> Throws up a steamy column, and the cups
> That cheer, but not inebriate, wait on each.
> So let us welcome peaceful evening in."

The Villa Aldobrandini has been selected as the most important of the Frascati country houses; and although there are many others of great interest, time will not admit of lengthy descriptions, and their leading characteristics can only be briefly indicated.

The Villa Falconieri, which also occupies a commanding position not far from the Aldobrandini, is of more modest dimensions. It has not the elaborate hill-side system of avenues, terraces, and watercourses, which give so much distinction to its neighbour, but it claims our interest in other ways. Foremost of these are its fine gateways, bold and vigorous in design, and differing one from the other. That to the forecourt facing the principal approach is a deeply recessed archway, with boldly rusticated pilasters, which support a heavy entablature, the upper members of its cornice being carried up in the centre to



VILLA ALDOBRANDINI, FRASCATI: FOUNTAINS AND CASCADES.

form a curvilinear scroll pediment. Rustic figures in niches decorate its wing walls, and its lateral piers are surmounted by statues. Another gateway of ample dimensions communicates with the kitchen or garden court, and is decorated with lofty columns linked to the piers by the cornice blocks which form bases for sculptured animals.

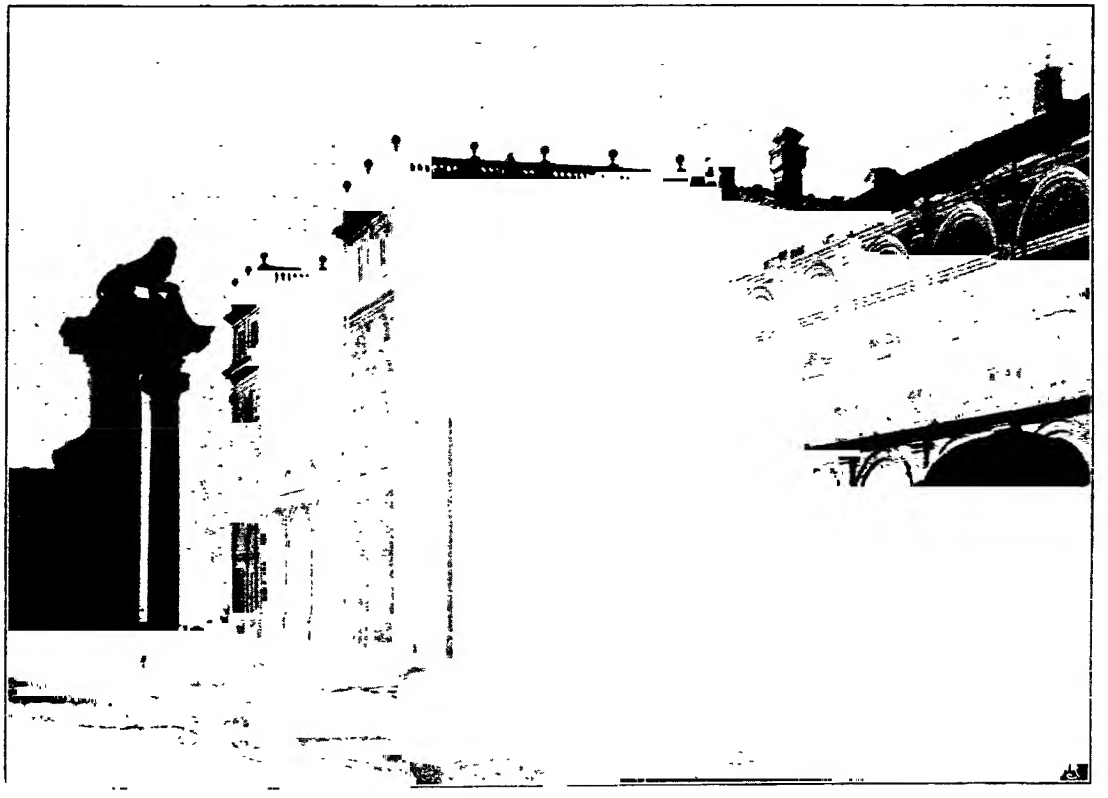
The house possesses the usual arcaded loggia, with projecting wings or pavilions, enclosing the recessed centre. They are carried up above the main cornice with attic stories, which are finished with balustraded parapets.

Amongst the villa's other attractions is an upper pool, shaded by cypresses, which is a favourite subject with the artists who frequent Frascati in search of paintable subjects.

The Villa Mondragone, a huge barrack-like structure, lies to the north, and is now made into a training college for young priests. Its ancient name was Monte Dragone (the mount

of the dragon); and an elaborate fountain, its basin supported by carved winged beasts, is one of its features of interest.

From the high road to Monte Porzio an avenue of ilexes leads up to the terraced platform on which the villa stands. The buildings which compose this habitation are immense, and surround a large interior court decorated with fountains in rusticated niches. Another inner court, the ancient flower garden, now made into a playground for the students, is famous for its loggia, a masculine piece of work attributed—I know not on what authority—to Vignola. The spandrils of its arches are carved alternately with the Borghese eagles and dragons, and its vaulted roof is enriched with stucco ornament. A spacious terrace, relieved only by a central



VILLA FALCONIERI, FRASCATI.

fountain and two ornamental columns, towering up above the enclosing balustrades, runs in front of the villa, and commands a magnificent view of the Campagna and the sea. In surveying these country houses as they rise above the wooded slopes the question arises, How is it that these buildings with their square uniform masses, which to the English taste appear at first sight so singularly lacking in beauty, gradually grow upon the imagination, until at last one finishes by actually liking them? Is it that they have something in common with the landscape, or some secret affinity with the soil? Mr. Maurice Hewlett, perhaps, might give an answer to the question! Certain it is, however, that to the minds of some of us these country houses, with their low roofs, projecting eaves, and harmoniously balanced arrangement of windows, rising from the upland slopes and framed in a setting of foliage, convey a sense of quiet pleasure that buildings of greater architectural pretensions fail to create.

From Mondragone a pretty, shady road leads down to the Villa Taverna, otherwise called the Borghese, which was built by Cardinal Scipio Borghese from the designs of Girolamo Rainaldi. Although its situation is not so fine as that of Mondragone, the arrangement of its rooms is more convenient.

Its plan is symmetrically disposed, with a central block four stories in height, having on each side enclosed courts surrounded by vaulted ambulatories and low buildings. The lower basement stage with heavily barred windows is without the customary loggia, and its entrance doorway opens into an inner vestibule. The recessed centre, which follows the customary formula, is elevated higher than usual, and here we find it at the level of the second floor. At the rear a further court is provided, arranged in amphitheatre form, with double flights of steps, forming a fine architectural feature, which follow the semicircular curve and ascend to the terrace of the garden above.

At the other side of the town, and close to the public gardens which skirt the promenade, is the entrance to the grounds of the Villa Torlonia, which unfortunately at present are difficult of access, permission being granted only in exceptional cases.

Their chief attraction is the *château d'eau*, which rivals in interest the celebrated waterworks of the Villa Aldobrandini. Here the water descends from the hilltop in cascades, falling into oval basins, each rather larger than the one above, until it is finally precipitated into a pool which lies at the base of a finely treated arcaded retaining wall, which is decorated with numerous niches, each containing a separate fountain. Level with the first floor of the villa an upper terrace, planted with trees, is approached by flights of steps of dignified character; and in other directions groves and alleys, moss-grown and shaded by ancient trees, with stone benches, vases, and fountains, suitably disposed, add to the beauty of this favoured spot.

Possessing certain points of similarity with the Villa Falconieri designed by Borromini, is the country house now belonging to Prince Lancellotti, which dates from the sixteenth century. It has been known by other names, and the designations Tusculana and Ruffinella are still occasionally applied to it. The elevation of the garden front is simple and dignified —a plain, low-roofed façade, unbroken save by its central feature, which displays a triple-arched loggia on the first floor, and is carried up to form an attic stage, crowned by a balustrade with statues on pedestals, after the manner of Palladio. The garden exhibits a capital example of a parterre laid out in arabesques of elaborate pattern outlined with box. It is bounded by lofty hedges of clipped ilex, and a fountain and grotto close it in at the farther end.

The gardens of the Villa Muti, which lie off the main road between Frascati and Grotta Ferrata, are well worth a visit; but beyond a passing mention it is hardly necessary to refer to them in detail, as their general features and characteristics are not unlike those with which you will now be familiar.

In conclusion, it may be thought that the architecture of the villas themselves has not met with adequate recognition at my hands, and that their gardens have assumed a position of undue importance. If this be so, let me say that my principal desire has been to bring before your notice the admirable manner in which the Italian architects of the Renaissance solved the problem—in the first place, of recognising to the full extent the possibilities of the site, and secondly, of uniting the garden, the house, and its approaches into a well-ordered and rhythmical scheme calculated to produce unity of artistic effect.

REVISION OF THE CHARTER AND BY-LAWS.

THE Recommendations of the Council for the Revision of the Charter and By-laws were duly brought forward and considered at the Special General Meeting convoked by the Council for the purpose and held Tuesday, 2nd July. The Recommendations were the outcome of the Council's Report on the Resolutions respecting the Question of Registration passed at the Meeting of the 3rd April last year [JOURNAL, 7th April 1906], which Report was presented to the General Body and adopted at the Meeting of the 4th March last [JOURNAL, 9th March 1907]. The clauses of the Charter and the By-laws affected, with the proposed revision, were printed together in parallel columns for convenience of reference and issued to members with the *Supplement* to the JOURNAL of the 15th June. They are reprinted below as a record. The alterations made and the resolution passed by the General Meeting of the 2nd † are set out in the report of the Discussion [pp. 612–17] and in the Minutes of the Meeting [pp. 617–18].

CLAUSES IN PRESENT CHARTER.	SUGGESTED REVISION.
II. 2. THE Royal Institute shall consist of three classes of subscribing Members, namely, Fellows, Associates, and Honorary Associates, and two classes of non-subscribing Members, namely, Honorary Fellows and Honorary Corresponding Members* and such other classes either subscribing or non-subscribing as may be hereafter established by the Royal Institute.	II. 2. *Insert "; a non-Corporate class of Licentiates;"
II. 3. FELLOWS shall be Architects who have attained the age of thirty years and who have been engaged as principals for at least seven successive years in the practice of Architecture. *After the expiration of five years from the date of this Our Charter the Royal Institute shall have power to declare that every person desiring to be admitted a Fellow shall be required to have passed such Examination or Examinations as may be directed by the Royal Institute. But in special cases the Council shall have power to dispense with such Examination or Examinations.*	II. 3. Replace italicised sentences by:— "After the 31st December 1907 no candidate shall be eligible for election to the class of Fellows unless he is an Associate, or unless and until he shall have passed the examination for admission as an Associate, or being a Licentiate unless and until he shall have passed such special examination as shall be prescribed by By-law. Provided always and notwithstanding anything hereinafter to the contrary, the Council shall have power to elect to the class of Fellows any Architect who is eligible and may appear to them to be desirable to be admitted."
	II. 7 (*a*). New clause: "Licentiates shall be persons elected by the Council in a manner to be prescribed by By-law within twelve months of the date of this present Charter who have attained the age of thirty years, and who at the date of their application for admission shall have been (*a*) for at least five successive years engaged as principals in the practice of Architecture, or (*b*) for not less than ten years engaged in the study or practice of Architecture to the satisfaction of the Council."
II. 9. EVERY Fellow and every Associate and such other subscribing Members as the Royal Institute may hereafter determine shall be entitled to obtain a Certificate* of Membership subject to such conditions and on payment of such subscrip-	II. 9. *For "Certificate" read "Diploma."

† At the Special General Meeting of the 15th inst., which had been called to confirm the resolution passed at the meeting of the 2nd inst., the President announced that the Council had been legally advised that the proceedings of the meeting of the 2nd inst. were invalid owing to a misruling from the Chair [*see p.* 619], and that the Council's proposals for the revision of the Charter and By-laws would be brought forward again next session.

Present Charter.	Suggested Revision.
tions or other sums as By-laws may from time to time prescribe, and any such person ceasing to be a Member shall on demand deliver back to the Council his Certificate* of Membership.	II. 9 (*a*). New clause: "Every Licentiate shall in like manner be entitled to obtain a certificate of admission to his class, subject to like conditions, payments and obligations."
II. 10. A FELLOW may use after his name the initials F.R.I.B.A. and an Associate the initials A.R.I.B.A.	II. 10. Add to clause: "and a Licentiate the initials L.R.I.B.A."
VI. 25. NO person who shall hereafter become a non-subscribing Member* shall in any case or at any time nor shall any person who shall hereafter become a subscribing Member* and shall afterwards cease from any cause whatever to be a Member* or any of their representatives have any interest in or claim against the property of the Royal Institute.	VI. 25. *Insert "or a Licentiate."
	VII. 31(*a*). New clause: "Licentiates shall be entitled to be present at all meetings other than business meetings and to take part in the discussion on any subjects brought before the meetings, except those relating to the Charter or By-laws or any proposal to alter or vary either or any of them, but shall not be entitled to vote."
	New Section IV. (*a*): Education. "The Council shall, subject to the approval of H.M.'s Privy Council, formulate in a manner to be prescribed by By-laws, and may, subject to such approval, from time to time alter and amend a scheme or schemes for the education of architects throughout the United Kingdom, India and the Colonies. All persons submitting themselves for the Final Examination for the Associateship after 1912 shall be required as a condition precedent to admission to such examination to have passed through the course of education or to have otherwise qualified themselves in manner to be prescribed under the By-laws."
Present By-laws.	
3. *Every* person desirous of being admitted as Fellow or Associate must be proposed according to the Nomination Form for his Class. The Christian name, surname, &c., &c.	3. Precede "*Every*" by:— "Save and except those whom the Council may elect in accordance with the Charter, every"
	6 (*a*). New By-law: "Every person desirous of being admitted as a Licentiate must be proposed according to the nomination form of his class in manner similar to that hereinbefore provided in respect of Fellows and Associates, but his nomination form may be subscribed by any three members, whether Fellows or Associates.

PRESENT BY-LAWS.	SUGGESTED REVISION.
	"Every candidate for admission as a Licentiate who satisfies the Council that he is eligible under the Charter and who is in the opinion of the Council a fit and proper person shall be admitted as prescribed in By-law No. 10 (*a*). A Licentiate when and as soon as he is otherwise eligible as a Fellow may before the 31st December 1920 be admitted for nomination to that class when he shall have passed such examination as the Council may from time to time prescribe, in which case he must be nominated and submitted for election in all respects as prescribed for other candidates for the Fellowship."
7. The nomination of every applicant for admission to any class of membership* must be forwarded to the Secretary for submission to the Council, who shall inquire into the fitness and qualifications of the applicant, &c., &c.	7. *Insert "or to the class of Licentiates."
8. The election of candidates shall (except in the case in which special provision is made in *By-law* 9) take place at Business Meetings only, and in no case until due notice thereof has been given in the circular convening the Meeting.	8. For words in italics, read "By-laws 3, 6 (*a*), and 9."
9. . . . . Provided always that when the Council of the Institute receive a unanimous recommendation formally submitted by the Council of any Allied Society that a practising member of the profession is eligible and worthy of being elected as a Fellow, the Council shall, during the five years from the date of approval of this provision by the Privy Council, have power to elect him, if in their opinion his work be of sufficient merit. The Council shall also have the power to elect annually to the Fellowship without ballot the President or President-elect of any of the Allied Societies who may be eligible and apply for admission.	9. Delete this proviso.
	10 (*a*). New By-law: The name of any candidate whom the Council are empowered under the Charter to elect, either as a Fellow or Licentiate, together with the names of his proposers, shall be sent to every member of the Council, and to the Council of any Allied Society of which he may be a member, not less than seven days before the meeting of the Institute Council at which his name is to be submitted for election. Every such candidate receiving the unanimous vote of those present and voting at a meeting of the Council, and in any case receiving the affirmative vote of not less than twelve, shall be declared elected subject to By-law No. 11.
11. When a candidate is elected, the Secretary shall inform him of his election and shall send him a copy of the Charter and By-laws, and no	11. * Insert "or as a Licentiate."

PRESENT BY-LAWS.	SUGGESTED REVISION.
elected candidate shall be entitled to the rights and privileges of membership* until he shall have signified his acquiescence in the election. No candidate for subscribing membership* shall be entitled to *such* rights and privileges until he has also signed and returned to the Secretary the Declaration A, B, or C [*see* pp. 56–57], and has paid his entrance fee or contribution and first annual subscription.	For "*such*" read "any." Insert "D."
12. Every member* who has complied with the preceding By-law 11 shall be formally† admitted, at the first General Meeting at which he may be present, by the President, or the Chairman of the Meeting, who, addressing him by name, shall say—"As PRESIDENT [*or Chairman of this Meeting*] I "HEREBY ADMIT YOU A FELLOW [*or otherwise as "the case may be*] OF THE ROYAL INSTITUTE OF "BRITISH ARCHITECTS." And every such member shall at such Meeting sign, according to his Class, the Register of the Royal Institute.	12. *Insert "or Licentiate." †Insert "introduced and." Add at end: "Should the elected candidate be unable to attend a meeting within three months of his election he shall transmit by post to the Secretary his signature to be inserted in the Register."
15. (*By-law dealing with Subscriptions.*)	15. Add new clause:— "(*d*) A Licentiate shall pay an annual subscription of one guinea, and for this shall be entitled (*a*) to receive a copy of the JOURNAL and KALENDAR of the Royal Institute; (*b*) to use the Institute premises subject to any regulations or restrictions that the Council may make from time to time."
22. Any member* contravening the Declaration A, B, or C,† signed by him, or conducting himself in a manner which, in the opinion of the Council, is derogatory to his professional character, or who shall engage in any occupation which, in the opinion of the Council, is inconsistent with the profession of an architect, shall be liable to suspension or expulsion in manner hereinafter provided. Any member* who may be convicted of felony shall, *ipso facto*, cease to be a member* of the Royal Institute.	22. * Insert "or Licentiate." † Insert "or D, as the case may be."
23. Any charge under the preceding By-law 22 preferred against a member* must be in writing, duly signed, and forwarded to the Secretary, who shall lay it before the Council at their next Meeting. Such charge shall be entertained, considered, and determined by the Council only, but the Council shall have power to appoint a Committee of not less than three of their own body to investigate it, and to report to them thereon. Should the Council find *primâ facie* grounds for further proceedings, the Secretary shall send, in a registered letter, to the member* against whom the charge is preferred, a copy of the same, calling upon him to answer such charge in writing within fourteen days of the date of such letter, and, at their discretion, to appear in person before a Meeting of the Council or of a Committee of the	23. * Insert "or Licentiate."

PRESENT BY-LAWS.	SUGGESTED REVISION.
Council. In default of the member's * compliance with the request in such letter, or if his explanation be, in the judgment of the Council, unsatisfactory, the Council shall have power to decree the suspension of such member * for a period not exceeding twelve months, or his expulsion. No member * shall be suspended or expelled unless the Council so decide by a majority of at least two-thirds of those present, and in any case by the vote of at least twelve of those present. If they so decide, the member * shall be suspended, or expelled, and cease either temporarily, or permanently, as the case may be, to be a member,* on the Chairman at the next General Meeting announcing such decision of the Council to the members present; and the Secretary shall thereupon communicate the fact by registered letter to such member.* ‡Provided always that, should any facts be subsequently brought to the knowledge of the Council which, in their opinion, shall justify them in rescinding their previous decision, they shall have power to do so with the concurrence of at least the number of votes required for the suspension or expulsion as herein provided, and in such case the Chairman at the next General Meeting shall announce the decision of the Council to the members present. § *In any case of such expulsion or rescission, as herein mentioned, the fact shall be forthwith recorded in the* JOURNAL *of Proceedings.*	‡ Insert "In any case of such suspension or expulsion the fact shall be forthwith recorded in the JOURNAL of Proceedings, and published in such newspapers as the Council may determine." § Insert after "present": "and the Council shall publish such decision in the JOURNAL and the newspapers as before provided." Omit sentence in italics.
By-law 24. 69. Diplomas or Certificates, of such forms and designs as the Council may prescribe, shall be granted to every Fellow *and* Associate * who is or shall be entitled thereto *under Regulations to be made from time to time by Resolution of the Royal Institute.*	By-law 24. Insert By-law 69 as the first paragraph of By-law 24. Line 2, insert after "may" the words "from time to time." Line 3, delete "and." * Insert "and Licentiate." Delete words printed in italics.
The *Certificate* of Membership* shall bear the Common Seal of the Royal Institute, and be signed as provided by By-law 39. It shall remain the property of the Royal Institute, but shall be tenable by the member † so long as he shall remain a member.† When the holder shall cease to be a member,† he shall, within seven days of demand being made in writing by the Secretary, return the *Certificate* *; but should he or his legal representatives fail to do so, or to explain his or their inability to do so to the satisfaction of the Council, the Council are hereby empowered to cancel the said *Certificate,** and to sue for and recover the same with costs; and a notice of such cancelling shall be given by the Chairman at the next General Meeting, and shall be forthwith inserted in the JOURNAL of Proceedings.‡	* Substitute the words "Diploma or Certificate" for "Certificate of Membership" and "Certificate." † Insert: "or Licentiate." ‡ Add at end: "and published in such newspapers as the Council may determine."
31. In the event of the death or resignation of the President, the senior Vice-President shall become President.	31. This by-law to read as follows: In the event of the death or resignation of the President, the Secretary shall forthwith forward to

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In the event of the death or resignation of the Honorary Secretary, the Council shall issue to every subscribing member within the United Kingdom a notice thereof, containing the name of such member or members whom they nominate for the vacant office. Within two weeks of such issue, any seven subscribing members, of whom the majority shall be Fellows, may nominate to the vacant office any other eligible member, by forwarding his name to the Secretary, accompanied by a written undertaking by the nominee to serve if elected. The Council shall, within one further week, issue to every *such* subscribing member a voting list for the election, accompanied by a notice convening a Special General Meeting as provided in By-law 60, to be held within not less than seven or more than fourteen days of such notice. Such lists shall be returned to the Secretary at least three days before the date of such Meeting. The Council shall appoint one Fellow and one Associate to act as Scrutineers, and the Scrutineers, whose decision shall be final, shall count the votes, and report the result to the Special General Meeting. The form of voting list and the mode of procedure shall be similar to those provided in the case of the annual election. The member so elected at the said Special General Meeting shall enter forthwith on his office.

In the event of the number of members of the Council being reduced, by death, resignation, or otherwise, below one-half of the full number prescribed in By-law 25, the Royal Institute shall proceed to elect other eligible members to the vacancies: the procedure being the same as herein described for the by-election of the Honorary Secretary.

All members of the Council appointed as herein provided shall remain in office until the close of the last General Meeting in the following June.

42. The Council shall annually appoint a Board of Examiners in Architecture, the members of which shall consist of Fellows of not less than five years' standing; &c., &c.

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every member of the Council a notice thereof, and at a regular meeting of the Council, held not less than fourteen days after the date of such notice, the Council shall elect one of the existing Vice-Presidents to fill the vacant office until the next Annual Election of the Council, and the Vice-President so elected shall forthwith enter on his office.

In the event of the death or resignation of the Honorary Secretary, the Secretary shall forthwith forward to every member of the Council a notice thereof, and at a regular meeting of the Council held not less than fourteen days after the date of such notice, the Council shall elect one of their members to fill the vacant office until the next annual election of the Council, and the member so elected shall enter forthwith on his office.

In the event of the number of members of Council being reduced by death, resignation, or otherwise, below one-half of the full number prescribed by By-law 25, the Council shall issue to every subscribing member within the United Kingdom a notice thereof containing the names of such members whom they nominate for the vacant offices. Within two weeks of such issue, any seven subscribing members, of whom the majority shall be Fellows, may nominate to the vacant offices any other eligible members, by forwarding their names to the Secretary, accompanied by a written undertaking by the nominees to serve if elected. The Council shall, within one further week, issue to every subscribing member a voting list for the election, accompanied by a notice convening a Special General Meeting as provided in By-law 60, to be held within not less than seven or more than fourteen days of such notice. Such lists shall be returned to the Secretary at least three days before the date of such Meeting. The Council shall appoint Scrutineers, and the Scrutineers, whose decision shall be final, shall count the votes, and report the result to the Special General Meeting. The form of voting list and the mode of procedure shall be similar to those provided in the case of the annual election. The members so elected at the said Special General Meeting shall enter forthwith on their respective offices.

All members of the Council appointed as herein provided shall remain in office until the close of the last General Meeting in the following June.

42. Delete "of not less than five years' standing."

(New By-laws.)

43 (*a*). The Board of Architectural Education shall always consist of not less than eighteen subscribing members of the Royal Institute and such other persons as the Council may on the advice of the Board invite, to formulate a scheme

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	of education as required by the Charter for pupils in architecture, and to report the same to the Council for their consideration, and the members of the present Board are hereby constituted as the first of such Boards. Such teaching institutions as have accepted the scheme of the Board and are recognised by it shall each have the right to nominate a representative, being a member of the Royal Institute, as a member of the Board. The Council may on the advice of the Board invite other representative persons to act as advisory members to such Board and the present advisory members are hereby confirmed in their representative position. Such Board shall, when the scheme has been adopted by the Council, have the supervision thereof, and shall annually report to the Council thereon with any suggestions for alteration thereof. The Board shall be annually appointed by the Council from a list submitted by the Board. The Board shall have power to elect its own officers from its members, and to draw up regulations for its procedure. The scheme adopted by the Council, and any variation thereof adopted from time to time, shall be forthwith published in the JOURNAL of the Institute. No such variation adopted shall in any way prejudice any pupil in respect of any work done by him under the scheme existing previous to such variation.
	43 (*b*). The Council shall be at liberty at any future time to amalgamate into one body the Board of Examiners and the Board of Architectural Education should that appear to the Boards to be desirable, and in that case all the By-laws relating to either body shall, so far as they may apply, take effect with regard to the said amalgamated Boards.
	43 (*c*). Every candidate for the Associateship, after 1912, before presenting himself for the Final Examination shall have either (*a*) passed through the course prescribed under the scheme adopted by the Council as above, or (*b*) proved to the satisfaction of the Board of Examiners that he has otherwise been properly trained as an architect.
	62 (*a*). The subject of a resolution which has been submitted to a General Meeting and duly considered shall not be again submitted during the same Session without the previous consent of the Council.
XIX. 83. Forms of Declaration. A. and B.	XIX. 83. Forms of Declaration. A. and B. After the Preliminary Statement the Forms to read as follows :—
"And, in consideration of my having been so elected, I promise and agree that I will not accept	"And in consideration of my having been so elected I promise and agree that I will not accept

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any trade or other discounts, or illicit or surreptitious commissions or allowances, in connection with any works the execution of which I may be engaged to superintend, or with any other professional business which may be intrusted to me; that, having read the Charters of Incorporation and By-laws of the said Royal Institute, I will be governed and bound thereby, and by any alteration thereof which may hereafter be made, until I shall have ceased to be an Associate; and that, by every lawful means in my power, I will advance the interests and objects of the Royal Institute."

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any trade or other discounts, or give or accept any illicit or surreptitious commissions or emoluments in connection with any works the execution of which I may be engaged to superintend, or on which I may be employed under any other person or with any other professional business which may be entrusted to me. I further promise that I will not have any interest in any contract or in any materials supplied to any works on which I may be engaged, and that I will not advertise my name either in any newspaper or otherwise. Lastly I declare that I have read the Charter and By-laws of the said Royal Institute, and will be governed and bound thereby, and will submit myself to every part thereof and to any alterations thereof which may hereafter be made until I have ceased to be a member; and that, by every lawful means in my power, I will advance the interests and objects of the said Royal Institute."

D. Form to be signed by a Licentiate.

"I, the undersigned,.....having been elected a Licentiate of the Royal Institute of British Architects, do hereby declare that I have been for not less than ... years engaged ..... that I am ... years of age, that I am not engaged in any other avocation than that of an architect, and in consideration," &c., as in Forms for Fellows and Associates.

DISCUSSION.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

THE CHAIRMAN (Mr. THOMAS E. COLLCUTT, *President*) formally presented the above recommendations, and moved their adoption.

Mr. A. W. S. CROSS, M.A. [*F.*], asked the Chairman's ruling on the point as to whether under the present By-laws it was open to a Special General Meeting to pass resolutions. Was it not the business of such Meetings to discuss proposals only?

THE PRESIDENT having read to the Meeting By-law 61,

Mr. K. GAMMELL [*A.*] urged that the By-law laid it down that a Special General Meeting could consider a proposal, but did not give power to pass it.

THE PRESIDENT ruled that it was competent to the Meeting to pass a resolution.

Mr. GAMMELL asked permission to read to the Meeting By-law 62, urging that that By-law covered the whole question.

THE PRESIDENT declined to allow the reading, as it would take up the time of the Meeting unnecessarily. He had, he said, considered By-laws 60, 61, and 62 very carefully. The object of the Meeting was quite in order, and he adhered to his ruling.

THE PRESIDENT went on to refer to the following resolution which Mr. Herbert W. Wills [*A.*] had given notice to move at that Meeting—viz., "That the proposed Charter and By-laws as amended be referred back to the Council in order that a By-law of the nature of the one recommended by the Meeting held on the 10th June be inserted in the new Charter and By-laws." The President said he had debated in his own mind as to whether that resolution should be taken at once or left to be dealt with after the Council's recommendations had been considered. He had come to the conclusion that what he had to say with regard to Mr. Wills's motion should be said at once. He had very carefully studied the By-laws in this regard, and in order that there should be no hesitation or misunderstanding as to his conclusions, he had committed them to writing, and would read them to the Meeting. "The Charter and By-laws," read the President, "are laid down for the general convenience of members, and until they are altered all proceedings of the Institute must be regulated strictly by them. By-law 61 provides the machinery by which By-laws may be altered or new By-laws adopted. This is in one of two ways: By proposal either by the Council or by any twelve Fellows, and when such proposal is made a Special General Meeting must be called under By-law 60 to consider it. The present Meeting has been called by the Council for the consideration of their proposals, which have been printed and circulated. Mr. Wills, an Associate, has proposed the following resolution:—'That the proposed Charter and By-laws as amended be referred back to the Council in order that a By-law of the nature of the one recommended by the Meeting held on the 10th June be inserted in the new Charter and By-laws.' This is in effect a proposal by an Associate for a new By-law, and it is clearly not in order, as by By-law 61 only the Council or twelve Fellows can propose a new By-law. Therefore the Meeting will

only consider the By-laws submitted by the Council. It is, however, competent for a Fellow to propose to this Meeting the rejection or amendment of any of the proposals submitted by the Council, and if he is supported by a majority of at least two-thirds of the Fellows present such proposal will be a resolution of the Royal Institute within the meaning of By-law 62." That was his ruling, the President concluded; he had no alternative. If he ruled otherwise he should be going against what was laid down very clearly in the By-laws.

Mr. G. A. T. MIDDLETON [*A.*] asked the Chairman's ruling on the following point: Associates had not the right to vote on matters affecting the By-laws, but he claimed that Associates had the right to vote on matters concerning the Charter. Clause 28 of the Charter expressly stated that Associates had no right to vote on the By-laws, but it said nothing about the Charter. The latter laid down definitely that they had a right to speak and vote on all other matters.

THE PRESIDENT said he must rule that an Associate could not vote upon the Charter. Charter and By-laws were so intimately connected as regulations for the government of the Institute that they could not be separated for the purpose in hand.

Mr. MIDDLETON, after some further remarks, said he must ask the Associates and Fellows present to follow him downstairs to the Council room and consider what steps they should take to support their rights in this matter. There might be a case for an injunction.

Several members rising to leave the Meeting, and the President stating that the business for which the Meeting was called would have to proceed in their absence,

Mr. H. T. BONNER [*A.*] said that there seemed nothing in the proposals before the Meeting to cause unnecessary pain or suffering to the Associates. There was no injustice done to any members of the Institute as at present constituted, and he appealed to his fellow Associates to remain and hear the other side of the question before taking any action.

THE PRESIDENT: I should like to remind the Meeting that what is before us this evening has been considered by a Special Committee and by the Council, and it has been submitted by the Council to this Meeting. With the exception of this question as to voting, there has been no objection taken to the procedure proposed for this evening.

Mr. MIDDLETON: This is a matter of principle. We have the right to vote and speak upon matters of the Charter, and our grievance concerns that matter entirely. I consider this Meeting is out of order, and would be held so in a court of law.

THE PRESIDENT: It seems to me that whatever you have to say with regard to the Charter can be said quite well when we are discussing the By-laws.

Mr. MIDDLETON: I do not know why we should speak if we have no right to vote. I believe we have the right to vote, and, believing that, we must hold out for it.

THE PRESIDENT: It is a very great pity, I think, that some notice of the action you proposed to take was not given to the Council beforehand.

Mr. OWEN FLEMING [*A.*]: I should like to dissociate myself altogether from what Mr. Middleton says. I do not recognise the right of these gentlemen to represent the Associates.

Mr. HERBERT W. WILLS [*A.*]: I think I gave a perfectly fair and open notice of my amendment.

THE PRESIDENT: I do not call that into question for a moment. Your motion is perfectly fair and straightforward. But I think you ought to allow that upon a fair reading of By-laws 60 and 61 it is not within my power to allow your resolution to go forward.

Mr. WILLS: Reading those three By-laws I at first thought that the ruling at the last Meeting was wrong; then I was uncertain about it; and then I came to the conclusion that, whether the ruling at the last Meeting was correct or not, it was very desirable that there should be no ambiguity in the new By-laws.

THE PRESIDENT: Will you then point out any ambiguity, so that we may deal with it?

Mr. EDWIN T. HALL, *Vice-President*: May I remind the Meeting that this document was prepared by the instruction of the General Meeting in this room? Every principle and every important detail in the document has been discussed here, and the Council were instructed to bring up to the Meeting a revised Charter and By-laws to give effect to the resolutions passed by the General Body. If there is anything in the proposals which is not in accordance with the resolutions, or which is not in accordance with the general views of the Meeting, I am sure it can be readily pointed out. But the whole document purports to be with certain exceptions, which are mentioned, the mere carrying out of the resolutions of the Institute, and therefore I submit it is perfectly in order that it should come up now for consideration. Would it not save time if the President were to move that No. II. be adopted, and, if there is no dissent to it, that it should be passed; then the following clause would be taken, and so on? That would save time, and any objections could be brought out.

THE PRESIDENT: I should like to look into this point in the Charter. I have read Clause 28, and find that it is not absolutely stated that an Associate shall not vote in respect of the Charter.

Mr. MIDDLETON: It is not excepted; only the By-laws are excepted.

THE PRESIDENT: Yes; but it must have been in the minds of the framers of the Charter and the By-laws that no Associate should vote on either. It seems to me that if an Associate had the right to vote on the Charter he might just as well have the right to vote on the By-laws.

Mr. LACY W. RIDGE [*F.*]: The Charter is granted by the Crown. None of us have any right to alter the Charter. If we want the Charter altered we have to petition the Crown to alter it.

Mr. EDWIN T. HALL: If the Charter says that no Associate can vote upon that which is subsidiary to the Charter, *ipso facto* it appears to me he cannot vote upon that which is in the Charter.

THE PRESIDENT: That is so. I do not withdraw my ruling, but I wanted to make it clear to Mr. Middleton that I saw his point. May I ask the Associates whether there is any point in the Charter to which they take exception, and for what reason they wish to discuss it?

Mr. EDMUND WIMPERIS [*F.*]: Following Mr. Lacy Ridge's argument, if the Charter is a matter of Royal grant, how far is the Institute within its powers in proposing any variation from it? I think we are in a difficulty about that quite independently of any question whether an Associate should vote on this point or not. What position are the Fellows themselves in?

Mr. HALL: I think that is perfectly clear. His Majesty grants a Charter upon application. He never draws the document himself; somebody must draft it; and the present document, so far as it relates to the Charter, is drafted for submission to His Majesty.

Mr. WIMPERIS: Then we are here to discuss whether His Majesty shall grant a Charter on these lines or on any other lines, in which case we are here to discuss the lines which are proposed; and in that case, if we disagree about the lines which are proposed, we are here to vote upon those particular clauses. Is that so?

Mr. HALL: Not the Associates, but the Fellows. The President has ruled that already.

THE PRESIDENT: I should like to say with regard to Mr. Lacy Ridge's remarks that the Charter was first granted by King William IV. It was revised in the reign of Queen Victoria; and we have a right now to revise the Charter in the new reign, and to revise the Charter we have a perfect right to discuss in what way it should be revised.

Mr. E. R. Robson, F.S.A. [*F.*]: Would it be possible to separate the votes of the Fellows from those of the Associates and then refer the matter to the Council to see what should be the respective rights? The point seems to be that Associates have no right to vote on the Charter.

The President: Yes.

Mr. Robson: In the questions which arise they wish to vote. Could not the votes be kept separate so that the whole matter could go to the Council?

The President: I do not think that would be possible. There is no object in recording votes which have no value, and the Associates' votes upon this question have no value. Their views, however, would carry weight if they discuss it.

Mr. Wimperis: Under By-law 62 a General Meeting which discusses alterations in the By-laws can take no action unless there are at least twenty Fellows voting. I am in a little doubt whether there are twenty Fellows voting here to-night.

Mr. Hall: There must be twenty subscribing members, of whom eleven shall be Fellows.

The Secretary: There are over twenty Fellows present.

The President then moved the adoption of the insertion of the words "a non-corporate class of Licentiates" in Clause 2 of the Charter.

Mr. Middleton said that this addition of the class of Licentiates was a proposal to which he had taken exception from the very moment it was brought forward, and although t had received the assent of the various meetings, he thought he was right in objecting to it, and on this last possible occasion in again putting forward his views and possibly carrying them further than he had done before. This proposal was put forward entirely on the ground that the architectural profession was subject to evils of considerable magnitude which it was desirable to take means to stop, and these were the means proposed. The evil from which they suffered was that there were a great number of practising architects in the country who were comparatively unqualified men, outside all societies, under no restraint, who were bringing architecture into disrepute both as an art and socially, and also that there were men calling themselves architects who were not all of such honour as they should like them to be. That having been admitted, the desire now was to bring a certain number of those men under the control of the Institute so as to benefit and improve the whole profession. So far there was something to be said for this non-corporate class of Licentiates. But the proposal here was that the means of admission should be comparatively easy. He would show presently that it would probably not be successful in many ways. They were inviting a large number of men to join on very easy terms. First, it would put a premium on a certain amount of laziness. They knew the difficulty there was in getting men who had passed the Preliminary Examination to take the Intermediate and those who had passed the Intermediate to take the Final. What would be the result if a great many of those still had this further inducement to remain outside the Associates' ranks and not to enter through the examinations—that they may presumably become Licentiates and pose before the public as practically upon the same plane as the Associates here. They would have some standing in the Institute. They would be exactly what the Associates were before that time, now twenty-five years ago, when he (the speaker) passed the first compulsory examination held by the Institute, a class of men who were then bringing the Institute into great disrepute It was found necessary to stop that class then, and they had done so. There was a compulsory examination instituted and gradually that class was swept right out of existence.

The President: You quite understand that the election of Licentiates must take place within twelve months.

Mr. Middleton: That there will be no further admissions after twelve months?

The President: Yes; that is what we propose.

Mr. Middleton: I did not read that into the By-laws at all.

The President: The new Clause II. 7 (*a*) says: "Licentiates shall be persons elected by the Council in a manner to be prescribed by By-law within twelve months of the date of this present Charter."

Mr. Middleton: I took that to be prescribed by By-law which has to be passed within twelve months. I confess that alters the case very materially, and I have nothing more to say on the point.

The clause was then put to the vote and carried unanimously, Fellows only voting.

Clause 3 was similarly carried.

The new Clause 7 (*a*) being put—

Mr. Hall said that to avoid ambiguity or misunderstanding he would move the transposition of a few words in the clause, so as to read: "Licentiates shall be persons elected by the Council within twelve months of the date of this present Charter in a manner to be prescribed by By-law," &c.

Mr. J. Douglass Mathews [*F.*] said that the age of thirty years seemed a great deal too young. They seemed to be trying to envelop everybody who had been in practice for five years; it was practically giving a premium to young men who were lazy to become members of the Institute by being elected Licentiates. Licentiates apparently were to have all the privileges that Associates had. They would have the use of the rooms; the Institute publications would be sent to them—in fact, with the exception of voting, they would be practically on an equality with Associates. If they were to admit what might be called outsiders, which, he supposed, was the object of this clause, the minimum age ought to be put at thirty-five years, because young men of thirty should certainly be in a position to prepare for the Examination and pass it as Associates. Therefore in order that those who had been in practice should not be debarred from the privileges which the Institute conferred upon them, he thought thirty-five years would be a very moderate age.

The President stated that the point had been debated very closely in committee, and after careful deliberation they had come to the conclusion that thirty would be the desirable age.

Mr. Mathews: Then I say no more.

The President then put the clause to the vote.

Mr. Brodie: That is, subject to the suggestion of Mr. Hall, because I misread the paragraph entirely in the sense to which Mr. Middleton referred.

The President: Yes.

The clause was carried as amended, as were also the alteration in clause 9, and the new clause 9 (*a*).

Clause 10 being before the Meeting, with the addition of the words "and a Licentiate the initials L.R.I.B.A.," Mr. A. H. Reid [*F.*], *Hon. Sec. R.I.B.A for S. Africa*, said there seemed to him to be an element of danger in the proposition, especially in view of what had been said that evening. The last number of the *Building News* contained a very sensible letter from Mr. Frank Wilson, an Associate of the Institute, pointing out the danger which might arise by having the simple letters "L.R.I.B.A." after the names of Licentiates instead of some other letters which could not possibly be mixed up by a careless public with "F.R.I.B.A." or "A.R.I.B.A." He commended Mr. Wilson's letter to the attention of the Council, and suggested the advisability of having the full word "Licentiate" instead of "L.R.I.B.A." He proposed that the word "Licentiate" be substituted for "L."

Mr. J. Douglass Mathews seconded.

Mr. Middleton: If the word "Licentiate" be put, persons interested would drop the whole word and use "L.R.I.B.A." just the same.

The President: We must always bear in mind that this is a class which is going to die out.

Mr. DOUGLASS MATHEWS: It will not die out, perhaps, in less than fifty years.

Mr. A. H. REID: I think it should be clearly laid down and insisted on that persons entitled to use the affix should use it in the form specified in the Charter—viz., "Licentiate R.I.B.A."

Mr. BONNER: I think it should remain as put in the document before us. If we give a man the right to put the name "Licentiate" in full, the public would very likely think he was superior to a Fellow or an Associate. There are Licentiates of the Royal College of Surgeons. "Licentiate" is a high-sounding term, and looks an important distinction.

Mr. HERBERT SHEPHERD [A.]: Has the Council any idea what would be the probable number and the additional cost to the Institute of this new class?

THE PRESIDENT: There will be no additional cost to the Institute. They are a subscribing class.

A MEMBER: May I ask if you consider it expedient to create another class in order to confuse the public?

Mr. EDMUND WIMPERIS said he looked upon the introduction of this new class as a most unfortunate step. They had voted upon it that evening, but he felt they should take, as far as they possibly could, any possible sting out of it, so that it should not rebound to the detriment of Associates. He was heartily in sympathy with Mr. Reid: there should be some modification of title which would point conclusively to the fact that those gentlemen did not rank on level terms with Associates. He thought Mr. Reid's proposal the most practical, because the British public would understand well enough that a Fellow or an Associate of a body took higher rank than a Licentiate.

Mr. HALL said there could be no objection to the proposal. His fear, however, was that numbers of the class would drop the word "Licentiate," and simply put "R.I.B.A." after their names.

A MEMBER: Would it not be as well to say "Member"?

THE PRESIDENT: No; that includes all classes.

Mr. Reid's amendment being put and carried, the proposal was put as the substantive motion and agreed to, the phrase to read "and a Licentiate to use the affix 'Licentiate R.I.B.A.'"

The insertion in Clause 25 and the new Clause 31 (*a*) were passed without discussion.

The new Section IV. (*a*) being before the Meeting,

Mr. MIDDLETON said that the latter part of the clause required careful guarding. He suggested that instead of the words "in manner to be prescribed under the By-laws," the final words should read "in a manner to be prescribed from time to time by the Council." That would give a little more freedom, and show they were not going to lose the method of education by articles which had done so much for architecture in the past. As phrased, the clause almost suggested that they were going to have a course of education presently which would do away with the articles.

Mr. HALL: That is carefully guarded by the words they shall have "passed through the course of education or have otherwise qualified themselves in manner to be prescribed by By-laws." These can prescribe articles or anything else; therefore it is a matter of By-law.

Mr. MIDDLETON: Could not it be "prescribed by the Council from time to time"?

Mr. HALL: That does not give much power to the General Body; it is taking it out of the power of the General Body and putting it into the hands of the Council. I am not sure that that would receive general support.

Mr. GEORGE ELKINGTON [*F.*] proposed that the concluding words of the first sentence should read "throughout the United Kingdom, the Colonies, and India."

Mr. HALL: So that the Colonies which are free governing should precede India which is not a Crown Colony. That is a reasonable change.

The clause thus amended was put and agreed to, as were also the addition to By-law 3 and the new By-law 6 (*a*).

By-law 7 being put,—

Mr. REID said he wanted to call the attention of the Meeting to the fact that at the present moment in certain Colonies and Dependencies of the British Crown a Board of Examiners was appointed to examine candidates for the Institute Examinations. Therefore in By-law 7 he thought it would be necessary to add something to the effect that in case of the Colonies or Dependencies where local Honorary Secretaries have been appointed such application must be forwarded through them to the Secretary. He was speaking somewhat feelingly, as he was Honorary Secretary to the Institute in South Africa. He had already mentioned this matter personally to the Secretary, so that it might be brought up formally. The question arose to what extent the power of those Hon. Secretaries could go. It would be rather unpleasant if the Hon. Secretaries either here or in Canada or South Africa or Australia found themselves in conflict with intending candidates. He was quite agreeable to the matter being referred to the Council to deal with, but he thought it right to bring the matter forward as the Colonies were mentioned in the By-laws. He proposed the insertion of the following words: "That in case of the Colonies or Dependencies of the British Crown where local Hon. Secretaries have been appointed such applications must be forwarded through them to the Secretary of the Institute."

Mr. BONNER said he thought that a most unwise proposition. In the local places that he had been in—and he had been in one of the Colonies—there was an immense amount of professional jealousy. It might be that the Secretary of a Colonial branch had some feeling against a candidate who would be a very eligible member of the Institute. He thought it had better remain as it was.

THE PRESIDENT: The local Hon. Secretary merely passes the name which is forwarded to him. There is no question of his inquiring into the fitness of the candidate. That is left to the Council to inquire into.

Mr. BONNER: If it is left an open question and merely comes through him without recommendation or otherwise, then let Mr. Reid's proposition go forward. The Hon. Secretary might have some little grudge against a man.

THE PRESIDENT: But he would not have the power.

Mr. REID: I should like to say that such an insinuation as that might apply to our own respected Honorary Secretary here. I do not know that we are any worse in the Colonies than they are here.

Mr. OWEN FLEMING [*A.*]: Are these Honorary Secretaries officials of the Institute or are they Honorary Secretaries of the Colonial Societies?

THE PRESIDENT: They are Honorary Secretaries of the Institute.

Mr. HALL supported Mr. Reid's suggestion. It was perfectly sound, if the Council of the Institute had appointed a local Hon. Secretary, that the communications should come through him. He would suggest its being phrased in this way: "Or in the case of a Colony or India through the local Honorary Secretary, if any has been appointed by the Council of the Royal Institute." It would be a great convenience to have some local officer who should forward the necessary documents, and it would be a much greater convenience to those who wanted to apply to have some local person to go to.

Mr. OWEN FLEMING said he should like to speak against this, for the reason that these Colonial Societies were very often jealous of their own standing in the Colony, and he thought they might feel it rather strongly if the Institute were to appoint an official who was not even a member of their Society and all communications respecting the election of members had to pass through his hands. He felt sure from his knowledge of the members of the Colonial Societies in Australia and Canada that that would

not be liked. He asked members to hesitate before they passed this Resolution.

Mr. Reid: I do not see what local Societies have to do with this matter. I am the Hon. Secretary of the Royal Institute in South Africa, a position perfectly independent of local Societies. I am sorry to see such mean motives imputed.

Mr. Hall: If the Council of the Institute has sufficient confidence to appoint a man as our local Hon. Secretary, not of a local Society, but of the Institute, surely the object is that it may facilitate our correspondence. We should send to him if we wanted to make any inquiries about anybody. He is simply the person through whom the application shall be forwarded here.

Mr. Fleming: This is a new matter which is not on the paper at all. It is a matter which affects the Institute in a most extraordinary way, and I suggest that it would be desirable at all events to obtain the views of the Secretaries, or rather of the Councils of the Colonial Societies.

The President: We are not dealing with the Councils of Colonial Societies.

Mr. Fleming: At the same time you cannot exclude them. They have a status in this matter.

The President: They have no status at all with regard to this Institute. We are dealing with local Honorary Secretaries appointed by the Institute in the Colonies. The question of Colonial Societies does not come into the matter at all.

The Secretary pointed out that Hon. Secretaries of the Institute had been appointed for the Colonies for a great number of years. He could not say exactly how long, but they were an old-established institution ten years ago. There were local Honorary Secretaries in Canada, in Australia, and New Zealand, and a year or two ago Mr. Reid was asked by the Council to take up the position of Honorary Secretary in South Africa. It was no new arrangement.

Mr. Wimperis asked for what purpose these Honorary Secretaries were appointed in the Colonies if it were not for precisely the purpose they were now explaining in the By-laws.

Mr. Hall: Will this do: "or in the case of a Colony or India through the local Honorary Secretary (if any) appointed by the Council of the R.I.B.A."

Mr. Reid: Yes.

Mr. Wm. Dunn [*F.*]: It will read as if the local Secretary were to inquire into the qualifications.

Mr. Lacy Ridge: Is it to be made a necessity that the man's name should come through the Honorary Secretary? Is there any part of the world where it is not easier to find out the address of the Royal Institute of British Architects than that of the local Secretary? Surely it is better to write direct.

The President: I suppose the Institute has found that local Secretaries are desirable to have, or they would not have them.

Mr. Middleton: The insertion should be introduced after the word "Secretary" and not after "Council."

Mr. Hall: "For submission to the Council, who shall inquire"—it is not the Secretary who shall inquire.

Mr. Fleming: Do I understand that the Associates have no right to vote upon this?

The President: Certainly.

Mr. Hall suggested that the clause should read as follows: "The nomination of every applicant for admission to any class of membership, or to the class of Licentiates, must be forwarded to the Secretary, or in the case of a Colony or India through the local Honorary Secretary, if any, appointed by the Council, for submission to the Council, who shall inquire," &c.

This proposition being agreed to, the clause as amended was put from the Chair and carried.

By-law 8 being put, Mr. Middleton suggested that By-law 10 (*a*) be added to the By-laws to be referred to therein, so as to read "By-laws 3, 6 (*a*), 9, and 10 (*a*)."

The President accepted the suggestion, and By-law 8 was passed as amended.

The deletion of the proviso to By-law 9 was agreed to, and the new By-law 10 (*a*) passed.

Speaking on By-law 11, Mr. Middleton said the words "any rights and privileges" seemed rather sweeping, and he suggested it should read "any rights or privileges as such."

Mr. Hall: That must be so. The object is until he has put himself under an obligation he shall not have any rights or privileges.

Mr. Middleton: "As such."

Mr. Hall: It cannot mean anything else.

The By-law was then put as amended by the Council and carried, as was also By-law 12.

By-law 15 being put, Mr. J. Douglass Mathews proposed that the subscription of Licentiates should be two guineas, not one guinea as proposed by the Council. It appeared to him they were going out of the way to elect persons to this new class; and if they appreciated the membership, two guineas was not too much to ask. These gentlemen would have considerable advantages over the students, as well as privileges—their position, in fact, would be almost equal to that of Fellows and Associates.

Mr. E. A. Gruning [*F.*] seconded the proposition.

Mr. Wimperis said he was in a little doubt as to the reason for making these Licentiates. Was it because they desired to throw the cover of the Institute over them and their works, or was it that they wished to confer some benefit upon them? If the Licentiates got anything which was worth having at all, the fact that they got it without examination, without any status whatever, only added to the obligation they were under to pay fairly handsomely for it. He entirely agreed with the proposer and seconder of the amendment and heartily supported it.

Mr. Hall explained that that was not the only reason for getting Licentiates into the Institute. The great reason was that the Institute might control architects in the country in respect of their moral obligations to the profession. It was in order to exercise discipline, to admit a great number of men who were bound by an obligation in carrying out their work, and really to raise the tone, because he was sorry to say it had been stated that in many cases men in the country were not so strict in respect of illicit commissions as they should be. Therefore it was to the interest of the Institute to get all these men in, because by that means they were hoping to raise the status of and get more respect for the profession to which they had the honour to belong.

Mr. Wimperis: Then why are the powers only asked for for twelve months from the date of this Charter?

Mr. C. H. Brodie [*F.*] said he should strongly support the Council's proposal; those who had drawn this document must have had better opportunities of arriving at a fair conclusion than the present Meeting had. The subscription of one guinea seemed perfectly fair as striking an average. He had no doubt it had been proposed after most careful consideration.

After some further discussion, Mr. Douglass Mathews pressing his amendment, the matter was put to the vote, and the amendment negatived. The original proposition was then put, and carried.

In reply to a Member, the President stated that the question of an entrance-fee had been considered by the Council.

Mr. George Elkington said he thought that an entrance-fee of a guinea would be a very proper arrangement, and would be following the procedure with regard to other classes of membership.

Mr. Hall pointed out that Fellows and Associates were members of the Institute and participants in their corporate capacity in all the funds of the Institute. The Licentiates

had no interest whatever; they were not corporate members at all, but a class licensed (so to speak) by the Institute. Each individual member in his corporate capacity had an interest in the property of the Institute, and would be entitled to participate in all the capital funds in the event of dissolution. A Licentiate had no such power. That was the essential difference.

Mr. ELKINGTON said he would not press the matter after Mr. Hall's explanation.

By-law 23 being moved,

Mr. DOUGLASS MATHEWS asked whether the law of libel had been taken into account in this recommendation. There was a possibility of a point being raised in connection with the provision that the Institute should publish the names of those removed from the Rolls.

THE PRESIDENT: The Institute solicitors advised that we were perfectly justified in putting this in.

By-laws 23, 24, and 31 were successively put and carried.

On By-law 42 being moved, MR. A. H. REID said that as Boards of Examiners were being appointed in several Colonies and other Dependencies, he thought there should be an addendum to this clause somewhat as follows: "That the Council may appoint Boards of Examiners in any Colony or Dependency of the British Crown, and shall from time to time make such regulations for their guidance and control as may appear necessary." He was aware that a Board of Examiners had been appointed by the Council in South Africa, and he was also aware that that Board was in considerable uncertainty as to their powers and as to the scope of their work. He thought the point should be referred to in the By-law as suggested.

Mr. HALL: I think that is perfectly sound, because it limits the power of the Council to appoint other than the Board of Examiners, and therefore it would give greater elasticity to the Council.

The amendment was agreed to, and the By-law as revised accepted. Clauses 43 (*a*), 43 (*b*), 43 (*c*), 62 (*a*) and 83, were also carried.

Mr. HALL: With regard to what Mr. Reid has said about the Colonies or Dependencies, might not we have power to revise the technical wording, and say "Colonies, Dependencies, or India."

Mr. REID: I was going to bring that up as a general resolution at the end, but I agree if the Council will take Mr. Hall's suggestion that it should be done.

THE PRESIDENT: I think we had better leave that to the solicitors, who will put the matter in proper form. I now move, "That the recommendations be adopted as amended, and that the Council be authorised to take the necessary steps to carry them into effect."

The motion was carried unanimously.

THE PRESIDENT: That portion of the business concluded, I have now to take the sense of the Meeting on the following point. A Requisition signed by twelve Fellows has been received by the Council for a Special General Meeting. Although the Requisition is undated, it will be accepted as in order, and, in accordance with By-law 60, a Special General Meeting will be called. But as the Session ended, under By-law 52, in the month of June, and as a Special General Meeting not proposed by the Council must be held during the Session, it follows that the earliest date at which a Special General Meeting can be called under this Requisition will be immediately after the opening of the Session on the first Monday in November next. It will be for a majority of two-thirds of the Fellows present at this Meeting to determine whether the By-laws now proposed by the Council are not to be submitted to the Privy Council until after the holding of the Special General Meeting in November next.

Mr. HUGH STANNUS, A.R.C.A. [*F.*]: Will not you have to count for the two-thirds?

THE SECRETARY: There have been two-thirds hitherto.

Mr. HALL: The question to be discussed at the Special General Meeting requisitioned for is in effect the same Resolution as that which Mr. Wills has proposed?

THE PRESIDENT: It is.

Mr. HALL: The question is whether it would be the desire of the Meeting that this matter should go forward to the Crown and the Privy Council at once to get it through, or whether it should stand over till after November till there has been another discussion on this subject.

Mr. MIDDLETON: May I ask with regard to that (I am taking no part in this matter one side or the other) whether in any event after this notice for the meeting to be held in November, that meeting must be held, and that the matter will have to be discussed here, and that we may be involved therefore in a second application to the Privy Council to make a second alteration.

THE PRESIDENT: We shall have to take the risk of that, I think. This meeting has passed this document, and I will now put the question to the vote as to whether it shall be submitted at once to His Majesty and the Privy Council.

Upon a show of hands a unanimous vote was given in the affirmative.

Mr. H. T. BONNER: May I ask the Secretary what progress is being made with the Registration Bill?

THE SECRETARY: The Council was instructed to prepare a revised Charter and a new Bill to Parliament. They have revised the Charter, but the Bill is not yet begun.

THE PRESIDENT, in conclusion, announced that a Special General Meeting would be held on 15th July to confirm what had taken place that evening.

MINUTES.

SPECIAL GENERAL MEETING, 2ND JULY.

At a Special General Meeting summoned by the Council under By-law 60 and held Tuesday, 2nd July 1907, at 8 p.m. —Present: Mr. Thomas E. Collcutt, *President*, in the Chair; 24 Fellows (including 5 members of the Council) and 28 Associates: the Minutes of the General Meeting (Ordinary) held Monday, 24th June [p. 583], were taken as read and signed as correct.

The President formally presented the Recommendations of the Council for the Revision of the Charter and By-laws* in accordance with the Report adopted by the Institute at the General Meeting of the 4th March 1907.

A point being raised by Mr. A. W. S. Cross, M.A.[*F.*], supported by Mr. K. Gammell [*A.*], that under By-law 61 the Meeting could only consider proposals and not pass resolutions, the President ruled that it was competent to the Meeting to do both.

The President referred to the resolution Mr. Herbert W. Wills [*A.*] had given notice to move at that Meeting— —viz., "That the proposed Charter and By-laws as amended be referred back to the Council in order that a By-law of the nature of the one recommended by the Meeting held on the 10th June be inserted in the new Charter and By-laws" —and read his considered ruling that, the resolution amounting in effect to a proposal by an Associate for a new By-law, such proposal was out of order as being contrary to By-law 61, which restricts proposals of this nature to the Council or to twelve Fellows; and that in the present case the Meeting could only consider the recommendations submitted by the Council.

A claim by Mr. G. A. T. Middleton [*A.*], relying on Clause 28 of the Charter, that the disability of Associates to vote on the By-laws did not extend to the Charter, and that therefore Associates were entitled to vote on the proposed new clauses of the Charter, was disallowed by the President. †

The various recommendations as printed on the notice-

* The proposed alterations and additions were set out at length in the *Supplement* to the JOURNAL of the 15th June

† See Counsel's Opinion, p. 619

paper were moved from the Chair *seriatim* and voted upon singly by show of hands, Fellows only voting.

On the motion to insert in Clause 2 of the Charter the words "a non-corporate class of Licentiates," Mr. G. A. T. Middleton [*A.*], arguing on a misreading of the new Clause 7 (*a*) as drafted, objected to the institution of a permanent class of Licentiates; whereupon the President explaining that it was the intention of the clause to admit Licentiates only within the period of twelve months from the granting of the revised Charter, no further objection was raised, and the insertion in Clause 2 was agreed to.

The amendment of Clause 3 of the Charter was agreed to.

A proposal by Mr. Edwin T. Hall, *Vice-President*, to modify the reading of the new Clause 7 (*a*) so as to avoid ambiguity was agreed to, and the clause was accepted as follows:—"Licentiates shall be persons elected by the Council within twelve months of the date of this present Charter in a manner to be prescribed by By-law. Candidates shall have attained the age of thirty years, and at the date of their application for admission shall have been (*a*) for at least five successive years engaged as principals in the practice of architecture; or (*b*) for not less than ten years engaged in the study or practice of architecture to the satisfaction of the Council."

The amendment of Clause 9 and the new Clause 9 (*a*) of the Charter were agreed to.

On the motion of Mr. A. H. Reid [*F.*], *Hon. Sec. R.I.B.A. for South Africa*, seconded by Mr. J. Douglass Mathews [*F.*], the Meeting resolved that the addition to Clause 10 of the Charter should read "and a Licentiate the affix Licentiate R.I.B.A."

The insertion in Clause 25 and the new Clause 31 (*a*) of the Charter were agreed to.

A suggestion by Mr. George Elkington [*F.*] was accepted by the President and agreed to that the words at the end of the first sentence of the new Section IV. (*a*) of the Charter should be transposed so as to read "throughout the United Kingdom, the Colonies, and India."

The insertion of the words proposed at the commencement of By-law 3 was agreed to.

The new By-law 6 (*a*) was agreed to.

The insertion proposed in By-law 7 was agreed to, and on the motion of Mr. A. H. Reid [*F.*], seconded by Mr. Edwin T. Hall, *Vice-President*, the Meeting resolved that the following be inserted after the word "Secretary" in the third line of that By-law: "or in the case of a Colony or India through the local Honorary Secretary, if any, appointed by the Council."

A suggestion by Mr. G. A. T. Middleton [*A.*] to add "10 (*a*)" to the By-laws to be referred to in By-law 8, so as to read "By-laws 3, 6 (*a*), 9, and 10 (*a*)," was accepted by the President and agreed to.

The proposal to delete the proviso to By-law 9 was agreed to.

The new By-law 10 (*a*) was agreed to.

The alterations proposed in By-law 11 were agreed to.

The proposed additions to By-law 12 were agreed to.

An amendment to the clause proposed to be added to By-law 15, moved by Mr. J. Douglass Mathews [*F.*] and seconded by Mr. E. A. Gruning [*F.*], that the annual subscription of Licentiates be two guineas instead of one guinea as proposed by the Council, was put to the Meeting and negatived. The new clause to By-law 15, as recommended by the Council, was put to the Meeting and carried.

The proposed insertions and alterations in By-laws 22, 23, and 24 were agreed to.

By-law 31 as revised was agreed to.

The deletion of the words "of not less than five years' standing" in By-law 42 was agreed to.

On the motion of Mr. A. H. Reid [*F.*], seconded by Mr. Edwin T. Hall, *Vice-President*, it was resolved that the following provision be added to By-law 42: "That the Council may appoint Boards of Examiners in any Colony or Dependency of the British Crown, and shall from time to time make such regulations for their guidance and control as may appear necessary."

The desirability of employing uniform terms throughout the Charter and By-laws when referring to the Colonies and Dependencies of the Empire was suggested by Mr. Edwin T. Hall and Mr. A. H. Reid, and the President stated that the Institute solicitors would be instructed to revise the phraseology in such cases where necessary.

The proposed new By-laws 43 (*a*), 43 (*b*), 43 (*c*), 62 (*a*), and the Forms of Declaration in By-law 83 were agreed to.

Finally, on the motion of the President, the Meeting unanimously

> Resolved, that, subject to the amendments made at this Meeting, the recommendations of the Council for the Revision of the Charter and By-laws be adopted by the Institute, and that the Council be authorised to take the necessary steps to carry them into effect.

The President, having announced that a requisition of twelve Fellows for a Special General Meeting to consider the addition of a further By-law had been received by the Council, and that the Meeting would be duly called, went on to state that as the Session 1906–07 terminated in June, and as a Special General Meeting not proposed by the Council must be held during the Session, it followed that the earliest date at which a Special General Meeting could be called under the requisition would be immediately after the opening of the Session in November. The President ruled that it would be for the majority of two-thirds of the Fellows then present to determine whether the revised By-laws proposed by the Council and adopted by the General Body should not be submitted to the Privy Council until after the holding of the Special General Meeting to be called in compliance with the requisition in the month of November.

In the discussion that ensued it was stated that the By-law to be proposed by the requisitionists was similar in nature to that suggested in the motion of Mr. Herbert W. Wills [*A.*] above referred to.

The question being put to the vote, the Meeting unanimously resolved that the revised Charter and By-laws be submitted at once to the Privy Council.

The President having given notice that a Special General Meeting would be held on the 15th July to confirm, in accordance with Clause 33 of the Charter, the resolution adopting the revised Charter and By-laws, the proceedings came to an end, and the Meeting separated at 9.45 p.m.

Special General Meeting, 15th July.

At a Special General Meeting, held Monday, 15th July 1907, at 8 p.m., which had been called by the Council conformably with By-laws 60–62 to confirm the Resolution adopting the Revised Charter and By-laws passed at the Meeting of the 2nd July—Present, Mr. Thomas E. Collcutt, *President*, in the Chair; 15 Fellows (including 8 members of the Council) and 10 Associates,—

Upon the Minutes of the previous Meeting being put for confirmation, Mr. G. A. T. Middleton [*A.*] objecting that so much of the proceedings recorded therein as related to the revision of the Charter was invalid owing to an erroneous ruling from the Chair debarring Associates from voting on such revision, and demanding that the record of such proceedings be expunged from the Minutes, the Chairman explained that the Minutes constituted a record of what had transpired, and the only question that could arise was as to the accuracy or sufficiency of the record: whereupon, no further objection being raised, the Minutes, which had been previously circulated among members, were taken as read and signed as correct.

The Chairman informed the Meeting that he had received a letter from Mr. G. A. T. Middleton stating that he had taken counsel's opinion with respect to his (the Chairman's)

ruling at the last Meeting, and that such opinion was adverse to the ruling. The matter, continued the Chairman, had been carefully considered by the Council, and he had now to declare that the proceedings of the last Meeting were invalid, and that the business for which the present Meeting had been called could not be proceeded with.

The Chairman, further, in reply to members, stated that they would have an opportunity after the opening of the new Session in November of raising any questions upon the subject of the revision of the Charter and By-laws.

Mr. Middleton stated that it was his intention to bring forward a considerable number of amendments to the Charter, and that he would submit those amendments to the Council in advance.

The Chairman having declared the Meeting at an end, the Meeting rose at 8.30.

MEMORANDA FROM THE COUNCIL.

Suggested By-law empowering Requisition for a Poll.

Since the General Meeting of the 10th June the Council have given their earnest consideration to the recommendation of the General Body passed at the Meeting of the 10th June [JOURNAL, 15th June, pp. 522 *sqq.*], and they have come to the conclusion that it is neither desirable nor in the interests of the Institute that a provision for a poll—other than that already made in By-law 62—should be made in the revised By-laws, as there are a number of important matters which come within the category of professional questions on which a decision can be arrived at only after very careful and detailed investigation by a small committee, and which, therefore, it would be in every way undesirable to submit to the decision of the General Body of members, who from the nature of things could not be fully acquainted with the facts of the case.

Associates' Right to Vote on Charter: Counsel's Opinion.

The accuracy of the Chairman's ruling at the Special General Meeting of the 2nd July—viz., that Associates were debarred under Clause 28 of the Charter from voting on proposed changes in the Charter—having been questioned, the matter was referred by the Council to the Institute solicitors, Messrs. Markby, Stewart, & Co., who submitted the point to Mr. W. O. Danckwerts, K.C. The learned Counsel gave his Opinion as follows:

"OPINION.

"*In my opinion, Associates are entitled as of right to vote on any and every question except only the question of making, adopting, altering, revising, suspending, or rescinding a By-law. Any vote from which they have been erroneously excluded is bad unless possibly it can be shown that in no possible event could the exclusion have affected the result.*

"W. O. DANCKWERTS.
12th July 1907."

9, CONDUIT STREET, LONDON, W., *27th July* 1907.

CHRONICLE.

THE MIDSUMMER EXAMINATIONS.

The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the undermentioned provincial centres on the 10th and 11th June. Of the 218 candidates admitted, claims for exemption from sitting for the examination were allowed to the number of 43. The remaining 175 candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London	96	72	23
Belfast	7	6	1
Birmingham	5	3	2
Bristol	5	5	—
Cardiff	6	4	2
Dublin	1	1	—
Exeter	3	3	—
Glasgow	2	2	—
Leeds	18	16	2
Manchester	18	13	5
Newcastle	10	10	—
Nottingham	4	2	2
	175	137	37

The passed candidates, with those exempted—numbering altogether 180—have been registered as Probationers. The following are their names and addresses:—

ADAMS: Joseph; 90 Edgbaston Road, Smethwick [*Master*: Mr. C. W. D. Joynson].

ADAMSON: Thomas Robert; 27 Grove Street, Newcastle-on Tyne [*Masters*: Messrs. Boyd & Groves].

ALLISON: William; 62 Broomwood Road, Wandsworth Common, S.W. [*Masters*: Messrs. Moore & Nield].

ALLSEBROOK: Vivian Augustus; 7 New Street, Burton-on-Trent [*Master*: Mr. Thomas Jenkins].

ASHMAN: Herbert William; Rokeby, Coburg Road, Teddington, Middlesex [*Master*: Mr. J. Sydney Brocklesby].

BATES: Stacy James; 10 Alexandra Road, Southend-on-Sea [*Master*: Mr. C. Cooke].

BATH: Cyril Montagu Hurle; Sandown House, Churchfields, Salisbury, Wilts [*Master*: Mr. Fred Bath].

BENIANS: Hubert Joseph; 69 Shorrolds Road, Fulham, S.W.

BENNER: Walter; 147 Woodborough Road, Nottingham [*Master*: Mr. A. G. Smith].
BERRY: Tom Stanley; Hessle Lodge, Park Villas, Roundhay, Leeds [*Master*: Mr. G. F. Bowman].
BESWICK: Robert Frederick; The Knoll, Westlecot Road, Swindon, Wilts [*Master*: Mr. R. J. Beswick].
BHOWNAGGREE: Nasserwanji Mancherji Merwanji, Pedder Road, Bombay.
BILSON: Charles Frederick; 59 Whitehall Park, Highgate, N.
BLOUNT: Walter Stanley; "Hollybourne," Clifton Terrace, Cliftonville, Margate [*Master*: Mr. E. J. Griffith].
BOWMAN: Douglas; Park Lodge, Park Avenue, Roundhay, near Leeds [*Master*: Mr. G. T. Bowman].
BOWNASS: John Carr; Arkholme, Kirkby Lonsdale [*Masters*: Messrs. Walker, Carter & Walker].
BREWIS: Samuel Hugh; Trent College, Long Eaton, R.S.O., Derbyshire.
BRIGHOUSE: Christopher; Prescot Road, Aughton, near Ormskirk, Lancs. [*Master*: Mr. F. W. Finchett].
BRINTON: Stanley; 90 Cromwell Street, Newcastle-on-Tyne [*Master*: Mr. Dennis Hill].
BROAD: Gordon Leslie; 7 Cranwick Road, Stamford Hill, London, N. [*Masters*: Messrs. Runtz & Ford].
BRUNATI: Luigi; 26 Norland Square, Holland Park, W.
BRYANT: Herbert Phillips; 36 Gordon Avenue, Southampton.
BUSH: Sydney Poyntz; St. Kitts, Waldegrave Road, Teddington, Middlesex [*Master*: Mr. R. G. Hammond].
BUYSMAN: Cornelius James Alexander Kelder; 39 Cricklade Avenue, Streatham Hill, S.W. [*Masters*: Messrs. Hubbard & Moore].
CHESTON: John Allford; Haileybury College, Hertford.
CHIPPINDALE: Frank Dean; Ivy Bank, Guiseley [*Master*: Mr. Harold Chippindale].
CHISHOLM: Harry Bertram; 25 Colville Road, Bayswater, W.
CLARK: Charles James Kilgour; 80 Brighton Grove, Newcastle-on-Tyne.
CLARE: Alfred Douglas; Lidlington, near Ampthill, Bedfordshire.
CLAYDON: Horace Eden Christie; 16 Greenhill Crescent, Harrow [*Master*: Mr. F. M. Elgood].
COLBECK: Henry; 13 Milton Place, Halifax [*Masters*: Messrs. Glendinning & Hanson].
CREWS: Leslie Wilfred; 1 Hillsboro' Avenue, Exeter [*Master*: Mr. J. Archibald Lucas].
CULLIFORD: William Clifton; The Manse, Queen Street, Newton Abbot, Devon [*Masters*: Messrs. G. W. Rowell, Sons & Locke].
DANN: Wilfred; Shears Green, Gravesend, Kent [*Masters*: Messrs. Thomas Dinwiddy & Sons].
DAVIES; John Percival Wilkin; 62 Chepstow Road, Newport, Mon. [*Master*: Mr. F. R. Bates].
DAVIES: Percy Reginald; Ship Hotel, Barry, Glam. [*Master*: Mr. Edgar G. C. Down].
DEABILL: James Thompson; "Brookside," Carlton, near Nottingham [*Master*: Mr. Jas. P. Dixon].
DEARDEN: Henry, Jun., 2 Warriner Gardens, Battersea Park, S.W. [*Master*: Mr. C. M. Shiner].
DELL: Joseph William; Laurel Wood, Hare Lane, Farncombe, Godalming [*Master*: Mr. J. H. Norris].
DICKMAN: Ernest Victor; Linden House, Berkhamsted, Herts.
EDWARDS: Kenneth Drew; Thornton, Thurlow Park, Torquay [*Masters*: Messrs. Rowell, Sons & Locke].
ELLISON: George Samuel; 47 Devonshire Road, Birkenhead [*Master*: Mr. Thomas W. Cubbon].
ENGLISH: Charles Arthur; Ash Lea House, South Hylton, near Sunderland [*Master*: Mr. John Eltringham].
FAY: Franklin Leonard; 21 West Street, Havant, Hants [*Master*: Mr. Norman Henry Atkins].
FISHER: Kenneth John; c/o Messrs. Walsh & Nicholas, Architects, Museum Chambers, Halifax [*Masters*: Messrs. Walsh & Nicholas].
FRANCIS: Eric Carwardine; St. Tawdrie, Chepstow.
FRAUNDORFER: Cyril Robert; c/o G. A. T. Middleton, Esq., 19 Craven Street, Strand [*Master*: Mr. G. A. T. Middleton].
FRAUNDORFER: Victor Anthony; 19 Craven Street, Strand, c/o G. A. T. Middleton, Esq. [*Master*: Mr. G. A. T. Middleton].
GERRARD: Lawrence Allen; 17 Worsley Road, Swinton, Manchester.
GILLESPIE: William; Lynnfield, Orchard Street, Falkirk, N.B. [*Master*: Mr. James Strang].
GOLD: Hugh Andrew; "Cosford," 20 The Avenue, Beckenham [*Master*: Mr. R. A. Jack].
GOODWIN: Harry Thomas; 39 Granville Park, Blackheath, S.E.
GRAEME: Alan Vincent Sutherland, Ingram House. 42 Stockwell Road, Brixton, S.W.
GREEN: Thomas Claud Erskine; 16 Lisgar Terrace, West Kensington, W. [*Masters*: Messrs. Spalding & Spalding].
GREEN: Arthur Holden; 4 Somerset Road, Bolton, Lancs. [*Master*: Mr. Ernest Woodhouse].
GUTHRIE: Reginald Stanley; 101 Osborne Road, Newcastle-on-Tyne.
HALL: George Langley Desmond; 1 Victoria Street, Westminster, S.W.
HALLETT: George Farncombe; 152 Eastern Road, Brighton [*Master*: Mr. Simeon Hunt.]
HARVEY-GEORGE, Kenneth Chetwynd; Kingsfield, Jersey Road, Ilford, Essex [*Master*: Mr. L. C. Veale].
HEAVEN: Frank Henry; 5 Rock Street, Aberkenfig, Glam. [*Master*: Mr. Jesse Hurley].
HEALEY: Hilary Philip Chadwyck; 119 Harley Street, London, W.
HENDRY: Harry Duncan; 60 Herongate Road, South Wanstead, Essex [*Masters*: Messrs. Banister Fletcher & Sons].
HENSLOWE: John Cecil Edward; 3 Argyll Road, Kensington, W.
HEPWORTH: Philip Dalton; Linden, Somali Road, West Hampstead, N.W.
HESSELGRAVE: William Ewart Reginald; 38 Spencer Place, Leeds [*Master*: Mr. Chapman].
HIGGINSON: Frank; 8 Howard Place, Carlisle [*Master*: Mr. Higginson].
HILL: Oliver Falvey; 1 Hans Crescent Mansions. Knightsbridge, S.W. [*Master*: Mr. Wm. Flockhart].
HILL: Claude Edgar; Rylstone, Collegiate Crescent, Sheffield [*Master*: Mr. A. E. Tarvell].
HOWARD: Joseph Richard; 48 Coniston Road, Muswell Hill, N.
HOWARD: Stanley Boothby; 105 Chatham Street, Liverpool [*Masters*: Messrs. Willink & Thicknesse].
HOWE: John Liberty; "Farringford," Northwood, Middlesex.
HOYLE: Henry Armitage; Laurel Villa, Armley, Leeds [*Master*: Mr. G. W. Atkinson].
HUGHES: Vernon Hugh; 66 High Street, Sandgate, Kent.
HYDE: Henry Duncan; "Elmore," Elmstead Road, Bexhill, Sussex.
INGHAM: Walter; 83 Howe Street, Derby [*Master*: Mr. G. H. Widdows].
JACK: George Edmund; 51 Durham Road, East Finchley, N. [*Master*: Mr. Durward Brown].
JAMES: Thomas Stanley Gomer; "Islwyn," Caradog Road, Aberystwyth.
JESSOP: Bernard; Bank Cottage, Kimberley, Notts. [*Master*: Mr. J. P. Dixon].

JONES: Thomas Alfred; Bryngwyn, Caellepa, Bangor [*Masters*: Messrs. Davies & Son].
JONES: William George Edmund; Alhena Villa, 154 Caerleon Road, Newport, Mon.
JONES: William Harold; Woodbury, 24 Sunnyside Road, Hornsey Lane, N. [*Masters*: Messrs. Ridge & Waymouth].
KALTENBACH: Albert Frederick; 69 Harberton Road, Highgate, N.
KAY: John William; The Square, Kingsbarns, Fife, N.B. [*Masters*: Messrs. C. Ower & Co.].
KELLETT: William Arthur; Craig Lea, Westwood Avenue, Linthorpe, Middlesbrough, Yorks [*Masters*: Messrs. Kitching & Lee].
KENNEDY: James Sheriff; 79A Victoria Street, Belfast [*Master*: Mr. T. H. Tulloch].
KINGSTON: George Wilfred; c/o Mr. Richard Hall, Masonic Chambers, Bangor, N. Wales [*Master*: Mr. Richard Hall].
KNAPP-FISHER: Arthur Bedford; 2 Strathmore Gardens, Kensington, W.
KNOWLES: Joseph Russell; 21 Benthal Road, Stoke Newington, N. [*Master*: Mr. J. William Stevens].
LANE: Nathaniel Montague; Waldron House, Forton Road, Gosport [*Master*: Mr. J. W. Walmisley].
LATHBRIDGE: Staughton Charles; 7 South Hill Park, Hampstead, N.W. [*Master*: Mr. Frederic Hammond].
LEIGH: Frank; 1 Balfour Road, Southport, Lancs. [*Master*: Mr. Jesse Horsfall].
LINTON: Leonard; Ashfield Villas, Orbridge Lane, Stockton-on-Tees [*Master*: Mr. W. H. Linton].
LUBBOCK: Humphrey Thornton; 30 Gledhow Gardens, S.W.
LUCAS: Arthur Littlejohns; Park House, Bexley, Kent [*Masters*: Messrs. Barry Parker & Raymond Unwin].
MACAULAY: William; 112 Kenmure Street, Pollokshields, Glasgow [*Masters*: Messrs. Thomson & Sandilands].
McCLINTON: Arthur Norman; Rosaville, Windsor Park, Belfast, Ireland [*Master*: Mr. Vincent Craig].
McCONNELL: Thomas Herbert; Ingram House, Stockwell Road, S.W.
McDOWELL: Cecil Thomas; Trelawney, Brondesbury Park, Cricklewood, N.W.
McILVEEN: Samuel; Glenside, Bangor, Co. Down [*Master*: Mr. W. J. W. Roome].
MARCHANT: Frank Oliver; Bolds' Shaves, Woodchurch, Ashford, Kent [*Master*: Mr. Ernest Newton].
MARTIN: Henry Ray; 137 Burnt Ash Road, Lee, S.E.
MASON: George Harry; 34 Gilnon Road, Bolton [*Master*: Mr. Frank Freeman].
MATTHEWS: John Bredel; 19 Oakfield Road, Newport, Mon. [*Master*: Mr. George C. Halliday].
MAYHEW: Alfred Ernest; 51 Great Ormond Street, Bloomsbury, W.C. [*Master*: Mr. Horace Porter].
MENZIES: Allan; Muirlea, Forres, N.B. [*Masters*: Messrs. Ross & Macbeth].
METCALFE: William; 73 Lincoln Street, Wakefield [*Master*: Mr. J. Vickers Edwards].
MIDDLETON: Alfred Everitt; Highfield, Uppingham.
MILLER: Stanley Russell; 27 Church Road, Harlesden, N.W. [*Master*: Mr. G. Percy Pratt].
MITCHELL: Victor William; Kingsgate, 199 King's Road, Reading, Berks [*Master*: Mr. W. G. A. Hambling].
MOBBS: Hedley Adams; The Laurels, Oulton, near Lowestoft [*Master*: Mr. J. W. Cockrill].
MOBERLEY: Arthur Hamilton; 10 Campden House Road, London, W.
MONKMAN: Harold; 86 Bishopthorpe Road, York [*Masters*: Messrs. Hornsey & Monkman].
MONTGOMERY: Wm. Howat; St. Phillans, Wormit-on-Tay, Fife [*Masters*: Messrs. J. Lowe & T. M. Cappon].
MOON: Stanley Howard; 130 Seymour Place, Bryanston Square, London, W. [*Master*: Mr. A. L. Bond].
MOORE: John; Arumah, Princetown Road, Bangor, Co. Down [*Masters*: Messrs. Blackwood & Jury].
MORLEY: Alexander Francis; The High House, Brook Green, W.
MORRISS: Gordon; Stonebridge, Blackboys, Sussex.
MOUNTFORD: Edward Wallis; 11 Craven Hill, Lancaster Gate, W.
NORRIES: Ernest Bower; Rosemere, Clayton Avenue, Didsbury, Manchester [*Master*: Mr. G. Harold France].
NORTON: Bernard George; The Manse, Albert Street, Rugby [*Masters*: Messrs. Quick & Lee].
O'NEILL: George Gordon; Florenceville, Bangor, Co. Down [*Master*: Mr. W. J. W. Roome].
PAGE: Thomas Alexander; 14 Ravensbourne Terrace, South Shields.
PALMER: James; 130 Balls Pond Road, Islington, N. [*Master*: Mr. W. O. Milne].
PARKER: Thomas Abel; 37 Hall Street, Colne, Lancs.
PECKHAM: Arthur Reginald; 2 Stanley Road, Wimbledon, Surrey.
PEDLEY: Ernest William; 51 Wilfred Street, Derby [*Masters*: Messrs. Wright & Thorpe].
PHILLIPS: Rees; Delamere, Parson's Green, Fulham, S.W. [*Master*: Mr. A. Saxon Snell].
PLATTS: Percival Oates; 46 College Grove Road, Wakefield.
POLLEN: Harry Stewart; 6 Talbot Houses, Blackheath, S.E.
POLLOCK: Charles Lyle; 28 Mount Pleasant Square, Ranelagh, Dublin.
PRIDDLE: William, Jun.; 4 Sumatra Road, West Hampstead, N.W. [*Master*: Mr. W. L. Trant Brown].
PRIESTLEY: Ronald Henry Pinkney; Thorneholme, Robin Hood's Bay, Yorks. [*Master*: Mr. G. S. French].
PROCTOR: Albert Victor; 126 Heathleigh, Halifax [*Master*: Mr. A. G. Dalzell].
PRYNNE: Sherard John Howard; 40 Gunterstone Road, West Kensington, W.
RANGER: Edgar; London & County Bank House, High Wycombe, Bucks [*Masters*: Messrs. Kirkham, Burgess & Myers].
REITH: Alexander Murray; 61 Irvine Place, Aberdeen [*Masters*: Messrs. Sutherland & Pirie].
ROBERTSON: Frederic William; c/o Messrs. Herbert Baker & Masey, The Rhodes Buildings, Cape Town [*Masters*: Messrs. Herbert Baker & Masey].
ROBERTSON: Godfrey Alan Keith; Ardnacoragh, Hughenden Avenue, Belfast [*Master*: Mr. Wm. J. W. Roome].
ROBERTSON: Alexander Winton; Glen Carse, Chalkwell Avenue, Westcliff, Essex [*Master*: Mr. Maule].
ROBINSON: Alfred Douglas; 29 Beacon Hill, Camden Road, N.
ROBINSON: John Peter; 14 Rossmore Avenue, Ormean Road, Belfast [*Master*: Mr. J. St. J. Phillips].
ROUTLEDGE: Harold Easton Clucas; "Ballure," Ramsey, Isle of Man [*Master*: Mr. Frank Cottle].
SAUNDERS: Robert John Wing; Kingsley House, Oldfield Park, Bath.
SHAW: William Henry; "Glenwood," Stockton Brook, Stoke-on-Trent [*Master*: Mr. Wm. Campbell].
SKERRY: Cecil Edward; 36 Clifton Gardens, Maida Vale, W. [*Master*: Mr. Charles Rutley].
SKINNER: Cedric George; 6 Chesterfield Road, Bristol [*Master*: Mr. W. S. Skinner].
SLATER: John Alan; 11 St. John's Wood Park, N.W.
SMITH: George William; 54 Kent Street, Jarrow-on-Tyne [*Masters*: Messrs. White & Stephenson].
SMITH: Harold; 34 Market Place, Long Eaton, Nottingham [*Master*: Mr. John F. Dodd].

SMITH: Hugh Priestley; University College, Gower Street.
SMITH: Joseph; The Heights, Revidge Road, Blackburn [*Masters*: Messrs. Cheers & Smith].
SMITH: Wallace; "The Knoll," Lenton Sands, Nottingham [*Master*: Mr. Fiedk. Ball].
SPARROW: Arthur John; Coxley Vicarage, Wells, Somerset.
STEDMAN: William Bernard; 34 Athelstan Road, Cliftonville, Margate [*Master*: Mr. E. J. Griffith].
STEIN: Lewis Henry Samuel; 15 Bedford Place, Russell Square, W.C.
SUGDEN: Albert Jowett; 16 Elvey Street, Wakefield, Yorks [*Master*: Mr. E. P. Peterson].
SUTCLIFFE: George Mitchell; Lynd House, Greetland [*Masters*: Messrs. Jackson & Fox].
TAYLOR: Herbert Gilbertson; Ingram House, Stockwell, S.W. [*Master*: Mr. A. W. S. Cross].
THOMAS: William Henry; Eagle Hotel, Swindon [*Masters*: Messrs. Bishops & Fisher].
THOMS: William George; 156 Alfreton Road, Nottingham [*Master*: Mr. Frederick Bath].
TOYE: Frederick Charles Langrish; 8 Maryland Road, Wood Green, N. [*Master*: Mr. G. D. Stevenson].
TRINDER: William Meyrick, 137 Parkdale Road, Plumstead.
TYTE: Gilbert George Lee; 6 Heathcote Street, Mecklenburgh Square, W.C.
WADDINGTON: Harold Gerard; 77 Whitegate Drive, Blackpool [*Master*: Mr. F. T. Waddington].
WALKER: Richard; Holmshurst, Burwash, Sussex.
WALKER: Thomas; County Council Offices, St. Mary's Gate, Derby [*Master*: Mr. G. H. Widdows].
WALLACE: Andrew; 22 Quay Walls, Berwick-on-Tweed [*Master*: Mr. John B. Wilson].
WATKINS: Archibald Horace; 124 High Street, Southend-on-Sea, Essex [*Masters*: Messrs. Greenhalgh & Brockbank].
WATSON: Vivian Michael; Albion Villa, Aldebert Terrace, South Lambert Road, S.W.
WESTON: Clement Ebenezer; "The Laurels," Rotherfield, Sussex [*Master*: Mr. C. H. Strange].
WHITEHEAD: Edgar Joseph William; 7 Finsbury Square, E.C. [*Masters*: Messrs. Hodson & Whitehead].
WILKINSON: Geoffrey Francis Murray; 57 Cheniston Gardens, Kensington, W.
WILLIAMS: Stanley Hurst; Westholme, Clarkehouse Road, Sheffield [*Masters*: Messrs. W. H. Lancashire & Sons].
WILLIAMSON: Edwin L., 16A Union Place, Lochee, Dundee [*Masters*: Messrs. Johnston & Baxter].
WILSDON: Percy Thomas; 52 Beresford Road, Highbury, N. [*Master*: Mr. Sidney V. North].
WILSON: Eric Langdale; 19 Daisy Bank, Halifax [*Masters*: Messrs. C. F. L. Horsfall & Son].
WILSON: James Frederick; "Manhattan," Thorold Road, Ilford, Essex [*Master*: Mr. C. J. Dawson].
WOLLOCOMBE: John Roger; Ingram House, Stockwell Road, London, S.W.
YOUNG: Charles Alfred; 51 Station Avenue, Sandown, Isle of Wight [*Master*: Mr. John J. Barton].
YOUNG: Roland Keith; Frognal Lodge, Frognal, Hampstead, N.W.

Intermediate.

The Intermediate Examination qualifying for registration as *Student R.I.B.A.* was held in London and the undermentioned provincial centres on the 10th, 11th, 13th, and 14th June. One hundred and seventy-five candidates were examined, with the following results:—

	Number Examined	Passed	Relegated
London	107	47	60
Bristol	13	6	7
Cardiff	5	2	3
Dublin	1	1	0
Exeter	1	1	0
Glasgow	5	3	2
Leeds	16	9	7
Manchester	16	11	5
Newcastle	11	7	4
	175	87	88

The passed candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

PURCHON: William Sydney [*Probationer* 1905]; 6 Moring Road, Tooting Common, S.W. [*Masters*: Messrs. Brodrich, Lowther, & Walker].
WEIGHTMAN: Fred Norman [*Probationer* 1902]; 65 Manor House Road, Newcastle-on-Tyne [*Masters*: Messrs. Oliver, Leeson, & Wood].
McLEAN: Archibald John Chattan [*Probationer* 1904]; "Benwyvis," Lancaster Road, Brighton [*Masters*: Messrs. Oakden & Hawker].
MERRIMAN: Harold Ian [*Probationer* 1904]; 27 Young Street, Kensington, W. [*Master*: Mr. E. Guy Dawber].
WARREN: Henry George [*Probationer* 1905]; 78 Charrington Street, Oakley Square, N.W. [*Master*: Mr. J. R. Moore-Smith].
STUBBS: Edward Woodhouse [*Probationer* 1905]; Thornhill House, College Road, Norwich [*Master*: Mr. W. J. Dunham].
HAGELL: Frederic William [*Probationer* 1905]; 32 Harberton Road, Whitehall Park, N. [*Masters*: Messrs. W. Dunn & R. Watson].
UNDERWOOD: Sydney Francis Gilbert [*Probationer* 1906]; Dartford Road, March, Cambs [*Master*: Mr. F. Burdett Ward].
SMITH: Edwin [*Probationer* 1906]; 35 Nene Parade, Wisbech, Cambs [*Master*: Mr. F. Burdett Ward].
CRANFORD: William Harold [*Probationer* 1903]; Kingscliffe, Woodberry Down, Finsbury Park, N. [*Master*: Mr. A. N. Prentice].
JONES: Lewis Farewell [*Probationer* 1903]; Brinley, Mitcham, Surrey [*Masters*: Messrs. G. R. Crickmay & Sons].
STELFOX: Arthur Wilson [*Probationer* 1904]; 3 Chlorina Gardens, Malone Road, Belfast [*Master*: Mr. W. J. Fennell].
TASKER: William Watt [*Probationer* 1903]; 23 Ripon Gardens, Jesmond, Newcastle-on-Tyne [*Master*: Mr. Andrew K. Tasker].
WELCH: Herbert Arthur [*Probationer* 1904]; 78 Charrington Street, Oakley Square, N.W. [*Master*: Mr. J. R. Moore-Smith].
LOVELUCK: Edward [*Probationer* 1906]; Sunnyside, Bridgend [*Master*: Mr. P. J. Thomas].
TAYLOR: Samuel Pointon [*Probationer* 1903]; 33 Broad Street, Hanley, N. Staffs [*Master*: Mr. W. A. Baynes].
SHANKS: Norman Fraser [*Probationer* 1905]; 13 Skerton Road, Old Trafford [*Masters*: Messrs. C. K. & T. C. Mayor].
MORLEY: Francis Henry [*Probationer* 1906]; 14 Lincoln Street, Leicester [*Master*: Mr. S. Perkins Pick].
FOGGITT: George Herbert [*Probationer* 1907]; Ash Field, Yeadon, near Leeds [*Master*: Mr. George Foggit].

LUDLOW: William Henry [*Probationer* 1889]; 83 Elspeth Road, Clapham Common, S.W. [*Master*: Mr. Andrew Murray].

MOLE: Herbert William [*Probationer* 1904]; 49 Warrington Road, Newcastle-on-Tyne [*Masters*: Messrs. Hicks & Charlewood].

GREEN: John William [*Probationer* 1903]; 113 Rock Street, Pitsmoor, Sheffield [*Master*: Mr. H. J. Potter].

PLUMLEY: Donald John Grant [*Probationer* 1904]; Derrystone, Tyndall's Park Road, Clifton, Bristol [*Master*: Mr. F. Bligh Bond].

ROSS: Hugh Alexander [*Probationer* 1904]; 114 Godolphin Road, W. [*Master*: Mr. H. Chatfeild Clarke].

BOYD: James Stirling [*Probationer* 1906]; 19 Waverley Gardens, Crossmyloof, Glasgow.

COX: Herbert [*Probationer* 1907]; 11 Mecklenburgh Street, Mecklenburgh Square, W.C.

BENNETT: Thorold [*Probationer* 1905]; 20 Darnley Road, Gravesend [*Master*: Mr. E. J. Bennett].

RITCHIE-FALLON: Walter Adolphus [*Probationer* 1906]; 52 Beresford Road, Canonbury, N. [*Master*: Mr. A. Dixon].

GRAVENOR: Harold James [*Probationer* 1899]; 63 Sydenham Park, Sydenham, S.E. [*Master*: Mr. T. Durrans].

HASTIE: Thomas L. [*Probationer* 1903]; 158 Whitehill Street, Dennistown, Glasgow [*Master*: Mr. John Fairweather].

POWELL: Herbert Cecil [*Probationer* 1905]; "Engelberg," Lightwood Road, Buxton [*Master*: Mr. W. R. Bryden].

GRAY: James Henry [*Probationer* 1905]; Ravensworth, Monreith Road, E. Cathcart, Glasgow [*Masters*: Messrs. Campbell Douglas & A. N. Paterson].

RODGER: Will Ashton [*Probationer* 1904]; 8 Conway Road, Cardiff [*Masters*: Messrs. G. E. Halliday & J. W. Rodger].

MULREADY: Paul William [*Probationer* 1901]; 68 Dyne Road, Brondesbury, N.W. [*Masters*: Messrs. Pugin & Pugin].

SMITH: Luther [*Probationer* 1905]; 12 Albany Terrace, Victoria Road, Lockwood, Huddersfield [*Masters*: Messrs. W. J. Morley & Son].

LAFONTAINE: Philip Cart de [*Probationer* 1903]; 49 Albert Court, South Kensington, S.W. [*Master*: Mr. E. Guy Dawber].

MEIKLEHAM: David Lang [*Probationer* 1905]: 37 Upper Park Road, Hampstead, N.W. [*Masters*: Messrs. George Baines & Son].

RHODES: Wilfrid Craven [*Probationer* 1905]; 91 Oakley Street, Chelsea, S.W. [*Master*: Mr. H. Clapham Lauder].

THOMAS: Hugh [*Probationer* 1901]; 54 Hunter Street, Brunswick Square, W.C. [*Master*: Mr. W. A. Aickman].

JUDD: Frederick Stanley Gordon [*Probationer* 1905]; 7 Claremont Road, Windsor [*Master*: Mr. S. M. Wyborn].

BELL: William [*Probationer* 1905]; Preston Hall, Annam, N.B. [*Master*: Mr. F. E. Pearce Edwards].

FAWKNER: William [*Probationer*]; "The Warren," Gawsworth, Macclesfield [*Master*: Mr. C. Russell Hall].

WILSON: Frederick Candelen A. [*Probationer* 1904]; 7 York Road, Edgbaston, Birmingham [*Masters*: Messrs. Essex & Goodman].

ISAAC: William John [*Probationer* 1904]; 72 Bewsey Street, Warrington [*Master*: Mr. S. P. Silcock].

PETO: Alfred Norman [*Probationer* 1905]; St. James's Vicarage, Selby [*Masters*: Messrs. Danby & Simpson]

SUTCLIFFE: Hartley [*Probationer* 1906]; Low Fold Farm, Bolton, Bradford, Yorks [*Masters*: Messrs. Walker & Collinson].

NEWBERY: Charles Joseph [*Probationer* 1904]; Forest View, Battle, Sussex [*Master*: Mr. P. H. Tree].

BELL: Douglas [*Probationer* 1903]; 61 Gladstone Street, Scarborough [*Master*: Mr. Herbert Davis].

BENTLEY: Sydney George [*Probationer* 1904]; Mona Terrace, Farsley, Leeds [*Master*: Mr. A. Sharp].

BIRKS: Ellis Rawson [*Probationer* 1900]; 40 Watson Street, Sheffield [*Master*: Mr. C. B. Flockton].

BLAKEY: William George [*Probationer* 1902]; 4 Zion Terrace, Sunderland [*Master*: Mr. Geo. T. Brown].

BROCK: Alan St. Hill [*Probationer* 1905]; "Haredon," N. Cheam, Surrey [*Master*: Mr. Sidney R. J. Smith].

BURNETT: Frederick Wandlass [*Probationer* 1903]; 12 Tanybryn Street, Aberdare, Glam. [*Master*: Mr. E. W. Burnett].

BURR: Frederick Malcolm [*Probationer* 1904]; Terlings, Orleans Road, Hornsey Rise, N. [*Master*: Mr. R. Creese Harrison].

BURTON: William John [*Probationer* 1905]; 118 Erlanger Road, New Cross, S.E.

CHAIKIN: Benjamin [*Probationer* 1906]; 47 White Lion Street, Norton Folgate, N.E. [*Master*: Mr. M. E. Collins].

CHAPMAN: Richard Thwaite [*Probationer* 1904]; 47 Arkwright Street, Bolton, Lancs. [*Master*: Mr. T. E. Smith].

COGHLAN: Owen [*Probationer* 1904]; Glendale, King's Road, Cheltenham [*Masters*: Messrs. Prothero & Phillott].

CROOKE: Herbert Allen [*Probationer* 1905]; 84 Goldsmith Avenue, Acton, W. [*Master*: Mr. J. A. Souttar].

DAWSON: Howard Day [*Probationer* 1904]; 4 Doyle Road, Upper Tooting, S.W. [*Master*: Mr. A. W. Osborn].

DUNCAN: William Tees [*Probationer* 1901]; Ingle Nook, Rochdale [*Master*: Mr. H. Percy Adams].

FARROW: George Reginald [*Probationer* 1904]; 40 Hillside Road, Streatham Hill, S.W. [*Masters*: Messrs. Hampton & Sons].

FERRIER: James Straton [*Probationer* 1903]; 35 Lincoln's Inn Fields, W.C. [*Masters*: Messrs. W. Dunn & R. Watson].

FINNING: Leonard John [*Probationer* 1903]; "Sand Rock," Pinhoe, Exeter [*Master*: Mr. F. J. Commin].

HEPPEL: Francis Henry [*Probationer* 1903]; 27 St. George's Square, Worcester [*Master*: Mr. A. H. Parker].

HICKS: Lancelot Joseph [*Probationer* 1903]; Cooper's Hill Lodge, Weybridge, Surrey [*Master*: Mr. Andrew Bromley].

HOYLE: Wilfred [*Probationer* 1904]; New House, Gravesend, Kent [*Masters*: Messrs. Stratton & Lucas].

JAQUES: Richard [*Probationer* 1904]; The Woodlands, Harrogate [*Master*: Mr. Bentley].

JOHNSON: William Harold [*Probationer* 1902]; 92 Swinley Road, Wigan [*Masters*: Messrs. W. B. Johnson & Son].

KAY: George Alexander [*Probationer* 1902]; 2 Kensington Avenue, Douglas, Isle of Man [*Master*: Mr. Geo. Kay].

KESTEVEN: Leofric [*Probationer* 1899]; Arondale, Schubert Road, Putney, S.W. [*Master*: Mr. E. E. Fetch].

MIDDLETON: Vibert [*Probationer* 1900]; 20 Lynwood Avenue, Newcastle-on-Tyne [*Master*: Mr. C. S. Errington].

MURPHY: Henry John [*Probationer* 1905]; c/o A. Hill, Esq., 22 George's Street, Cork.

NASH: Bernard Owen [*Probationer* 1903]; 2 Buxton Road, Brighton [*Master*: Mr. Leslie W. Green].

NEWBOUND: Albert Everard [*Probationer* 1905]; Chatham House, Chatham Street, Newark [*Masters*: Messrs. Sheppard & Lockton].

ODDY: George Reginald [*Probationer* 1904]; Stone Lodge, Northowram, Halifax.
O'REILLY: Herbert Wilson [*Probationer* 1905]; 4 High Street, Devizes [*Master*: Mr. E. J. Jones].
PARR: Edward [*Probationer* 1903]; 23 Peel Street, Sunderland [*Master*: Mr. Jos. Spain].
POOL: Stanley [*Probationer* 1902]; Hartley Wintney, Winchfield, Hants [*Master*: Mr. A. G. Bond].
POPE: Thomas Campbell [*Probationer* 1903]; 7 Emlyn Villas, Emlyn Road, Shepherd's Bush, W. [*Master*: Mr. A. H. Ryan-Tenison].
SAMUELS: Edward Percy Proctor [*Probationer* 1905]; Edenfield, Llanfairfechan, N. Wales [*Master*: Mr. H. L. North].
SOUSTER: Charles Leslie [*Probationer* 1905]; 8 High Street, Gorleston, Gt. Yarmouth [*Master*: Mr. H. D. Arnott].
STEWART: Douglas William [*Probationer* 1902]; 174 West Green Road, South Tottenham, N. [*Master*: Mr. Arnold S. Tayler].
TEMPLE: Eric Edward [*Probationer* 1901]; Avenue Lodge, Highview Road, Upper Norwood, S.E. [*Masters*: Messrs. Geo. Baines & Son].
WALTON: Arthur Reginald [*Probationer* 1904]; 25 Osborne Terrace, Gosforth, Newcastle-on-Tyne [*Masters*: Messrs. Liddle & Browne].
WHITAKER: Vivian Stanworth [*Probationer*]; 36 Musgrove Road, Telegraph Hill, S.E. [*Masters*: Messrs. Shaw & Vowles].
WINTER: Cecil Reynolds [*Probationer* 1903]; High Street, Hucknall Torkard, Notts [*Master*: Mr. W. Dymock Pratt].

The following student having passed through the three years' course at the School of Architecture, University of Liverpool, has been exempted from sitting for the Intermediate Examination, and has been admitted *Student R.I.B.A.*:—

LYON: Maurice [*Probationer* 1906]; 35 Perham Road, West Kensington, W. [*Masters*: Messrs. Lanchester & Rickards].

Final and Special.

The Final and Special Examinations qualifying for candidature as *Associate R.I.B.A.* were held in London from the 20th to the 28th June. One hundred and five candidates were admitted. Of these thirty-four passed; the remaining seventy-one failed to satisfy the Board, and were relegated in various subjects. The following are the names and addresses of the passed candidates:—

BRENTNALL: Harold Percy [*Special Examination*]; 131 Clapton Common, N.
BROWN: Henry [*Special Examination*]; 75 Albert Road, Alexandra Park, N.
CLARK: Duncan Walter [*Probationer* 1902, *Student* 1904]; 7 Syon Row, Twickenham.
CLARKE: William Thomas [*Probationer* 1901, *Student* 1904]; 90 Sheil Road, Liverpool.
CLOUTING: Charles Emerson [*Probationer* 1900, *Student* 1903]; Carlyon, Granville Road, Sevenoaks.
COLLINGTON: Frederick Edwin [*Probationer* 1898, *Student* 1905]; 10 Welbeck Street, Nottingham.
CROSBIE: Lawrence Stanley [*Probationer* 1895, *Student* 1903]; Rathmore, Walton-on-the-Hill, Surrey.
EDMONDS: Leonard William [*Probationer* 1903, *Student* 1905]; 32 Old Park Avenue, Nightingale Lane, S.W.
GOLDSMITH: George Hartley [*Probationer* 1900, *Student* 1905]; 63 Faulkner Street, Manchester.
GREEN: Walter Godfrey [*Special Examination*]; 3 Heathfield Road, Acton, W.
HILL: Alfred [*Probationer* 1902, *Student* 1903]; 11 Thornton Lodge Road, Huddersfield.
JENKINS: William David [*Special Examination*]; 5 Parade, Carmarthen.
KENYON: Arthur William [*Probationer* 1901, *Student* 1905]; 7 Gratton Road, West Kensington, W.
LEITH: George Esslemont Gordon [*Probationer* 1905, *Student* 1906]; 23 Cathcart Road, South Kensington, S.W.
LOVELL: Percy Wells [*Probationer* 1900, *Student* 1902]; Parliament Chambers, Great Smith Street, S.W.
MOFFAT: Walter Goldstraw [*Special Examination*]; 44 Burlington Gardens, Acton, W.
MURCH: Spencer Harris Joseph [*Probationer* 1900, *Student* 1903]; Oakhurst, Loughton, Essex.
OLIVER: Bruce William [*Probationer* 1902, *Student* 1904]; Bridge End, Barnstaple.
PHIBBS: Harry [*Special Examination*]; 16 Pride Hill, Shrewsbury.
PHILLIPS: Louis Augustus [*Probationer* 1896, *Student* 1903]; 22 Gold Tops, Newport, Mon.
PORTER: Henry Arthur [*Probationer* 1900, *Student* 1904]; High View Avenue, Grays, Essex.
PROCTER: John Clifford [*Probationer* 1899, *Student* 1903]; Chalfont House, 20 Queen Square, W.C.
ROBINSON: A. Hurley [*Probationer* 1901, *Student* 1903]; 24 Soho Road, Handsworth.
SCAIFE: Edgar John [*Probationer* 1905, *Student* 1905]; 88 Chorley Old Road, Bolton.
SPENCE: Herbert Marshall [*Probationer* 1902, *Student* 1904]; Bank House, North Shields.
STOCKDALE: William [*Probationer* 1900, *Student* 1903]; 19 Reppon Terrace, North Shields.
TALL: Robert John [*Probationer* 1900, *Student* 1904]; 7 The Grove, Gravesend.
TEDMAN: Arthur [*Probationer* 1898, *Student* 1900]; 29 Henledge Gardens, Westbury-on-Trym, Bristol.
THACKER: Alfred Dennis [*Special Examination*]; 33 Newhall Street, Birmingham.
TRACEY: Bernard David [*Probationer* 1896, *Student* 1901]; Caledonia, Rickmansworth.
WHITEHEAD: William [*Probationer* 1903, *Student* 1905]; 79 Harehills Avenue, Leeds.
WIDDOWSON: Arthur Reginald [*Probationer* 1903, *Student* 1906]; 6 Millstone Lane, Leicester.
WILKINSON: Leslie [*Probationer* 1901, *Student* 1903]; 3 Ravensbourne Gardens, West Ealing, W.
YEO: Samuel Arthur Spear [*Probationer* 1903, *Student* 1904]; Glen-Exe, Alphington Road, St. Thomas, Exeter.

The following table shows the number of failures in each subject among the seventy-one relegated candidates in the Final Examination:—

I. Design	56
II. Mouldings and Ornaments	46
III. Building Materials	27
IV. Principles of Hygiene	33
V. Specifications	34
VI. Construction, *Foundations, &c.*	23
VII. Construction, *Iron and Steel, &c.*	36

Certificate Exempting rom the Preliminary.

On the recommendation of the Board of Examiners, the Council have resolved that the Junior School Examination Certificate of the University of London shall be accepted as exempting from the Institute Preliminary Examination.

The R.I.B.A. Examinations in South Africa.

Mr. G. A. H. Dickson [*F.*], in a Paper on "The Qualifying Examinations of the R.I.B.A. in South Africa," read recently before the Transvaal Institute of Architects [see p. 583], says :—

The public, speaking generally, are led by the profession, and the taste of the public is formed to a great extent by what is provided for them, and by what they see around them in their daily life, rather than by any conscious effort of education. The stimulating effect on the profession, therefore, must mean a general levelling up of the popular taste in architecture and kindred subjects. This higher standard of education in the public and the profession will, we may confidently hope, prevent in the future many of the vulgarities in architecture for which the principal towns in South Africa are now unfortunately notorious. There can be no doubt that the profession in South Africa in the past has been discredited, and that architecture has suffered from certain nondescript adherents who have neither the technical training nor the general education which are necessary in this as in all other liberal professions. The effect of the Institute Examinations will be, in time, the elimination of these. It is to be hoped, therefore, that the Government and the Transvaal University College will be able and willing to collaborate with the Transvaal Institute of Architects in the cause of higher education in architecture in South Africa.

It would be a worthy object for one of our millionaires with wide artistic sympathies, who has shown an appreciation of art, archæology, and architecture in Europe, if he would espouse this cause in South Africa, and institute at the Transvaal University a chair of architecture. There is a chair of architecture at Melbourne University, and, of course, at various Universities in England. A Bill has been prepared, and it is more than probable that in the near future it will be introduced in the Imperial Parliament, instituting some form of compulsory examination and registration for architects, and these Examinations by the Institute are preparing the way for such ultimate legislation. No doubt the Colonies would follow the example of the Home country in this matter, and the institution of this qualifying examination in the Colonies is a step forward. No living or national architecture can be created in a country without a knowledge of the history and philosophy of the art, in addition to the technical requirements which are necessary in architecture in common with civil engineering. We hope that, in time, there will be developed in South Africa a style distinct and characteristic. We have conditions that require and suggest a departure from the European models, and there is undoubtedly a tendency among the more intelligent architects in South Africa to evolve designs, whether secular or ecclesiastical, that have some characteristic feature suggested by a wide knowledge of our art and an appreciation of our requirements. . . . . .

The Royal Institute will in future not only insist on certain attainments, but, which is very important, they will put a definite face value on those attainments. Under present conditions a man may have had a most expensive training in his profession, but how are the public or the Courts to assess his value? A man cannot go about saying, "I was a pupil of so-and-so, the well-known architect, and my training has been of such-and-such a character." In my own case I was a pupil of the late George Edmund Street, R.A., and of Sir Arthur Blomfield, A.R.A. When I went into the world, unless I had passed the Royal Institute Qualifying Examination, I should for all practical purposes in the eyes of the public have been on the same footing as, say, the office boy who was there at the same time, and who, as a matter of fact, is at this moment, I believe, practising in a small way as an architect in London. These are domestic details, but they serve to illustrate the necessity for our making an effort as a profession to get into line with the other liberal professions, one result of which would be the constitution of what I have called a face value, as in other professions, for men who have been through the prescribed preparation, and who have been successful in passing the ordained qualifying examinations of the profession. That the existing condition of affairs has worked altogether unsatisfactorily I do not contend; it has perhaps played into the hands of men with well-known names owing to the qualifications of the younger men having no official imprimatur and being an unknown quantity to the public. It is not contended that the Institute Examinations will discover whether a man has the gifts necessary for a great architect; it only guarantees that he has the necessary technical and general education to enable him to practise. If it is thought desirable, in order to bring as many architects as possible under the ægis of the Institute so as to ensure uniform practice, I submit that some different and clearly defined class with a different denomination might be created. . . . In order to meet these and other objections and difficulties in connection with the selection of members, the Institute are proposing to hold a Special Qualifying Examination in the various parts of the British Empire. This does not, I admit, altogether cover the ground, as there are numerous gentlemen belonging to this Institute who cannot, for perfectly legitimate reasons, undertake to undergo this ordeal; but it is a step in the right direction, and will in time bring about a standardisation of recognised architects. The tendency to eliminate the nondescript adherent must be to raise the status of the profession in this country.

With regard to our position I suppose I am within the mark when I say that some half-dozen leading members of our local Institute have had the spending of some millions of pounds since the war, money entrusted to them by the public. We project and carry through large schemes from the initial stages to the most minute detail of the completion. This argues the possession of certain mental qualifications and exceptional organising power. We are, however, consistently overlooked by the powers that be when any public commission is appointed in a matter of importance, and we have not been asked to contribute or suggest a member of the Legislative Council. . . . Architecture is an art that has always been esteemed and encouraged by all enlightened nations; it has been taken as a gauge of the civilisation and culture in all times; it is necessary that we as professors of the art should see that it does not suffer from neglect and ignorance in South Africa. It is surely nothing less than a national misfortune when public buildings are erected which are a travesty of our art, and when our suburbs, which might have been beautiful, and for which Nature has done so much, are composed to such a large extent of the commonplace and drab type of house, instead of the beautiful homes, either large or small, which it is proved are possible. The older suburbs of Pretoria and a considerable part of our older Johannesburg suburbs are full of examples of the baneful influence of the "nondescript adherent of the profession," and an uninformed and uncritical public, who show an absence of any appreciation of the charm of simplicity, dignity, or truth.

To revert to my text, it is certainly a most extraordinary anomaly that a mechanical engineer in a mine, and even a plumber, should have to pass an examination and obtain a certificate, while an architect can practise without anything of the sort. He can simply put up a board with "architect" after his name, and he becomes at once a member of the professional classes. Should he appear in court, his evidence is taken by the judges as being expert, technical evidence, when he may possibly know less of the subject than a man outside the profession altogether. These gentlemen, to whom I referred as nondescript adherents of the

profession, have no knowledge of the underlying principles of architecture, and employ empirical methods, which are out of place in a profession. To remedy this state of affairs is the desire of all qualified men. . . .

The Royal Institute is slowly and surely achieving her object, which is that all its members shall be qualified architects. I do not wish to seem to infer that the members of the Transvaal Institute and others who in the past have for various legitimate reasons been unable to find time or have not had an opportunity of going up for the Royal Institute Examinations are not fully qualified. I am dealing rather with the future of our profession and justifying the line taken by the Royal Institute in holding these Examinations, and in making them a condition of membership; and also to justify the intention of getting a Registration Act passed through Parliament at an early date. How the desired end will ultimately be attained is not within the scope of this discussion; I merely wish now to point out that this is the end in view, and I think we all agree it is a desirable one.

Bethnal Green Municipal Buildings Competition.

The following correspondence has been handed in for publication :—

13th May 1907.

The Town Clerk, Bethnal Green Borough Council,—

DEAR SIR,—I am desired by the Competitions Committee of this Institute to draw the attention of the Borough Council to the unsatisfactory nature of some of the conditions, and to express the hope that these may be modified in accordance with the Institute Regulations for the Conduct of Architectural Competitions, a copy of which I have the pleasure to enclose.

My Committee would urge that Clause 7 of the Institute Regulations be substituted for Clause 7 of the Conditions, and that Clause 10 of the Conditions be deleted, as it seems to be entirely unfair (*e.g.*, in case of possible litigation arising out of matters not within the control of the architect). I have to point out that Clause 7 of the Institute Regulations, if adopted, would regulate the conditions of payments, and make this clause unnecessary.—I am, dear Sir, yours faithfully,

W. J. LOCKE, *Secretary.*

3rd June 1907.

The Secretary, Royal Institute British Architects,—

DEAR SIR,—I beg to inform you that your letter of 13th May, in reference to the clause fixing the fees payable to architects whose services are engaged for the proposed municipal buildings, has been considered by my Committee, and I am directed to inform you that they are not prepared to amend the clause as suggested by you.—Yours faithfully,

E. E. FINCH,
Borough Engineer and Surveyor.

Town Hall, Bethnal Green: 12th July 1907.

The President, Royal Institute British Architects,—

DEAR SIR,—I beg to inform you that this Council has recently advertised an architectural competition for the erection of proposed Municipal Offices, Council Chamber, Committee Rooms, &c., and in accordance with the Conditions the Assessor is to be nominated by yourself.

The designs are to be delivered at the Town Hall on September 2nd, and I shall be greatly obliged if you would be good enough to nominate an Architect of standing to adjudicate upon the designs. If you will let me know when it will be convenient to you, I will give you a call, with the conditions, &c., of the competition.—Yours faithfully,

E. E. FINCH,
Borough Engineer and Surveyor.

22nd July 1907.

The Town Clerk, Bethnal Green Borough Council,—

DEAR SIR,—With reference to your request that I should nominate an Assessor in this Competition, I beg leave to draw your attention to a letter of 13th May, addressed to you by the Secretary of the Institute, and your reply of the 3rd June, and to say that unless the clause dealing with payment of fees be deleted and Clause 7 in the Institute Regulations be substituted, I must decline to nominate an Assessor.—Yours faithfully,

THOMAS E. COLLCUTT, *President.*

Town Hall, Bethnal Green: 23rd July 1907.

The President, Royal Institute British Architects,—

DEAR SIR,—I am obliged by your letter of the 22nd instant, declining to nominate an Assessor, a decision I regret. The competitors have deliberately accepted the conditions, and I cannot see any justification for the Council varying them even if in the judgment of leading architects more favourable terms, professionally viewed, would result.

I am anxious that good faith shall be observed, but your objection at this stage will deprive the competitors of the safeguard of an independent selection of a well-qualified Assessor.

I understand that your objection is that in the event of litigation arising with regard to right of light and air, no payment beyond the architect's disbursement will be made.

The contingency of litigation is improbable and should be avoided, so that I feel your decision on this ground is not well founded.

Believe me, faithfully yours,

ROBERT VOSS, *Town Clerk.*

9 Conduit Street, W.: 24th July 1907.

The Town Clerk, Bethnal Green Borough Council,—

DEAR SIR,—In reply to yours of the 23rd inst., I have to say that objection to Clauses 7 and 10 of the Conditions was notified to you in the Secretary's letter of the 13th May, and, with the exception of pointing out that the question of observing good faith towards competitors is entirely in the hands of the Borough Council, I have nothing further to add to my letter.—Yours faithfully,

THOMAS E. COLLCUTT, *President.*

Preservation of Crosby Hall.

At a meeting of the City of London Corporation on the 11th inst., a report was brought up from the City Lands Committee on petitions from the Institute, the Society of Antiquaries, and other learned bodies in favour of the preservation of Crosby Hall. Mr. Domoney, the Chairman, stated that a deputation from the committees had seen Sir Montagu Turner, Chairman of the Chartered Bank of India, Australia, and China, which had purchased the site, and he had informed them that the Bank did everything in their power to obtain an equally advantageous site before they thought of acquiring Crosby Hall, but without avail. Since purchasing the site they had listened with every sympathy to the suggestions made for the preservation of the old building. It was not the question of money with them, but of obtaining a suitable place for the erection of a new bank to meet their growing requirements, their present premises in Hatton Court being utterly inadequate. If the Corporation would find them another site in the City equally suitable they would relinquish Crosby Hall. The Committee felt that to meet that requirement of the Bank was impossible. The Corporation had taken every means in their power to satisfy the public wishes in regard to the preservation of the hall, but without effect, and they could do no more.

At the moment of going to press comes the welcome announcement that the building may be preserved after all. Alderman Sir Vezey Strong at the Court of Common Council on the 25th inst. stated that since the above report private enterprise had been at work, and help was being rendered by most of the learned societies interested in the existence of this grand specimen of fifteenth-century architecture. It is now thought possible to effect an exchange of sites with the Bank and so save Crosby Hall. To do this it will be necessary to close up the existing street into Great St. Helen's and make a new and wider street a few yards distant. Sir Vezey Strong asked the Court to refer the matter to the Finance and Improvements Committee so that during the vacation attention would be given to it. The Court, he said, will not be put to the expenditure of a single penny either from its own funds or from the rates. Further, no compulsory powers are required to be put into force, as there is no property to be acquired.

Honours and Appointments.

The honour of Knighthood has been conferred upon Mr. W. Q. Orchardson, R.A. [*H.A.*].

The honour of Membership of the Royal Victorian Order has been conferred upon Mr. H. B. Measures [*F.*].

Mr. John Bilson [*F.*], F.S.A., has been appointed by the *Société française d'archéologie* a member of its *Comité d'honneur*. This consists of twelve members—three foreign and nine French, including the Marquis de Vogüé, the Comte de Lasteyrie, MM. Choisy, Enlart, and André Michel. It is the first time that an Englishman has been appointed a member of this Comité.

Obituary.

The death of Mr. Thomas Turnbull, which occurred on the 23rd February last, is announced from New Zealand. Mr. Turnbull was the head of the firm of Messrs. Thomas Turnbull & Son, of Wellington, N.Z., and had been a Fellow of the Institute since 1884. He was born at Glasgow, and losing his parents at an early age was brought up by a relative. Leaving school he was apprenticed to his cousin to learn the building trade, with a view to taking up afterwards the profession of architecture. His apprenticeship over he entered the office of Mr. David Bryce, of Edinburgh, the late Queen's Architect for Scotland. In 1851 he left for Melbourne, and practised there for nine years. Attracted to California in 1861, he settled in San Francisco in partnership with a Mr. England, and the firm carried on an extensive business until 1869, when Mr. England died. Mr. Turnbull then conducted the business alone, and was responsible for many important buildings that were in existence up to the time of the recent earthquake. While in San Francisco Mr. Turnbull held the office of Secretary of the Architectural Association of that city formed after the first disastrous earthquake of 1868, when the architects held a conference to discuss protective measures. A change of climate being advised for his failing health, Mr. Turnbull went to New Zealand, and settled in Wellington. Entering the service of the Government he became assistant to Mr. Clayton, then Colonial Architect. The following year, however, he started again in practice for himself, and soon laid the foundations of the present extensive business. He designed many of the best-known of the older buildings in Wellington, including such prominent structures as the General Post Office, the offices of various insurance companies, St. John's and St. Peter's Churches, the building of the Board of Education, St. Patrick's College, &c. Mr. William Turnbull, who was elected Fellow of the Institute last year, was the youngest son of the deceased, and of recent years had been in partnership with his father.

Nathaniel James Stanger, *Associate* elected 1882, senior architect in the Office of Woods and Forests, died on the 21st ult., aged fifty-one years. Mr. Stanger was a pupil of the late Arthur Cates, and afterwards acted as chief assistant until the death of Mr. Cates, when he was promoted to the post he occupied until his death.

Augustus Eldred Hughes, *Associate* elected 1878, of 28 Mortimer Street, W., died on the 13th inst. aged sixty-three years. He was the architect of

York Mansions, York Gate, Regent's Park; Oxford Mansions, erected some twenty-five years ago on the site of Oxford Market, near Great Portland Street; and of numerous other buildings in the parish of Marylebone. Mr. Augustus E. Hughes, son of the deceased, and an Associate of the Institute, had been in partnership with his father since 1902.

THE INSTITUTE VISIT TO EDINBURGH.

THE visit of the Institute to Edinburgh as the guest of the Allied Society of that centre passed off with the greatest success, and was the occasion of much satisfaction and enjoyment to all who were fortunate enough to be of the party. Considering the distance, there was a fairly representative gathering from London, the greater number travelling down by an early train on the morning of Thursday the 4th inst. The Northern Architectural Association had profited by the opportunity to arrange a visit to Edinburgh as its annual excursion, and the Northern Allied Society was consequently well represented among the visitors. The arrangements made by the Edinburgh Association for the comfort and entertainment of the guests were admirable, and reflect great credit on the organising committee: no time or trouble, and no expense, apparently, had been spared to make the visit a success. The thanks of the Institute are especially due to the President of the Edinburgh Association, Mr. Hippolyte J. Blanc, R.S.A. [*F.*], to the indefatigable Hon. Secretary, Mr. Colin B. Cownie, and to Mr. W. T. Oldrieve [*F.*], Mr. Thomas Ross, F.S.A.Scot., and the other gentlemen mentioned below under whose ciceronage the various public monuments were inspected, and whose descriptions contributed so much to the interest and value of the excursions.

Reception by the Lord Provost of Edinburgh.

The Lord Provost and Magistrates of the City held a reception in honour of the visitors on Thursday evening, the 4th, in the Council Chambers. The function was a very brilliant one, some four hundred ladies and gentlemen taking part. After the presentations the Lord Provost addressed the assembly, and gave the Institute a hearty welcome to Edinburgh. Its citizens, he said, rejoiced to have in their midst such an important gathering. The subject with which they were concerned was one that particularly interested Corporations, seeing that it dealt with the increased convenience, beauty, and adornment of cities. He hoped the visit of the R.I.B.A. to Edinburgh would be pleasant and profitable. On the motion of Mr. Hippolyte Blanc, a hearty vote of thanks was accorded to his Lordship. Excellent music was performed during the evening, and the City Museum was thrown open for inspection.

Visit to Edinburgh Castle.

On Friday the tour of the city opened with an inspection of the Castle under the guidance of Mr. Hippolyte J. Blanc. In the course of his remarks he said that the earliest structure whose period can be traced is St. Margaret's Chapel (1090). A stronghold existed here from the seventh century. In 960 the Castle was ceded to the Scots; and in 1018 the Lothians were given over to Malcolm II., by whom they were united to Scotland. The chapel—the oldest existing building—bears unmistakable evidence of great age. Mutilated by many appropriations, it still retains its original and unique form of plan. The Constable Tower—better known as the Argyll Tower, from its having been occupied by the Marquis of Argyll in 1685, on the eve of his execution—is part of the works carried out by David II. in the fourteenth century. The walls are in places 17 feet and 9 feet thick. In 1573 the English besieged the Castle, and destroyed (with the "David" Tower) the Constable Tower. The latter was repaired in a very temporary manner. In 1885 the late William Nelson undertook the expense of the restoration to its former character and style. The buildings in the Castle group are of various periods. The Half-Moon Battery was formed in 1578. The Quadrangle, forming the oldest group, has, on the north side, barrack accommodation, designed by Billings in 1889; on the east side, the Palace building and Crown Room (1621), erected by William Wallace, King's Master Mason; also the earlier Palace occupied by Queen Mary, where her son, James VI., was born in 1566. On the south side is the Great Hall (built in 1434, reconstructed 1508), where the Scottish Parliament frequently assembled. For two centuries the building was subdivided into several floors and used as the garrison hospital. Through the liberality of the late Mr. William Nelson it was restored in 1885, and is now appropriated as a museum of Scottish armour.

Visit to St. Giles's Cathedral.

Leaving the Castle, the party proceeded to St. Giles's Cathedral, and were shown over by Mr. Thomas Ross, F.S.A. Scot., who gave a brief history of the building. The church, the early history of which is involved in obscurity, has been the scene of many historical events, and has undergone many changes. None of the earliest work is now visible. A north side-chapel was built on in 1409. The choir was extended in 1460, when the "Preston Aisle" was formed. The Crown Tower, one of three built in Scotland, and 148 feet in height, is dated about 1510. At the Reformation the church interior was entirely changed. John Knox preached his last sermon here in 1570. In 1603 James VI. took fare-

well of his Scottish subjects in this church on leaving to take up the crown of England. The interior was remodelled in 1829, when the whole exterior was encased in new ashlar by Wm. Burn. In 1883 the interior was entirely restored at the expense of the late Dr. Wm. Chambers.

Visit to the Parliament House.

The Parliament House was next visited, Mr. W. T. Oldrieve [*F.*], Principal Architect to H.M. Office of Works, Scotland, kindly acting as guide. The following is a summary of his description:—

The erection of the existing Parliament House was commenced in the year 1632 and completed in the year 1640. The site on which it stands was at one time the burying-place attached to St. Giles's Church, and sloped from the height or ridge on which the High Street was built down to the lower level of the Cowgate. The records bear that in 1561 Queen Mary directed the Town Council to provide a sufficient house and rooms for the Lords of Session, Justices, and Sheriffs administering justice to the lieges of the realm. The result was the erection of the New Tolbooth; but it apparently was far from sufficient in the accommodation which it provided, and portions of St. Giles's Church continued to be used for civil purposes practically till the opening of the new Parliament House in 1640. The total cost of the Parliament House completed in 1640 amounted to £10,640. Of that sum £6,770 was contributed by the town, and £3,784 was the result of collections from the citizens. The hall was practically finished in 1639, and it was in that year that the Scottish Parliament first met there. It had been hoped that Charles I. would have opened the Parliament and inaugurated the new hall in person, and James Howell, writing from Edinburgh about that date, refers to "the fair Parliament House built here lately," and says that "they ill-advised King Charles otherwise than to open it in person." It is not known who was the architect of the Parliament House. The name of Inigo Jones is suggested, but there are no facts to support this theory. In 1633 James Murray, Master of Works to His Majesty, received a grant of £1,000 "for drawing up the model for the works of the Parliament and Council House."

The best idea of the architectural features of the Parliament House as originally built can be gathered from Gordon of Rothiemay's engraving. The exterior was designed in Scottish Gothic architecture; the interior consisted of the main hall of the same dimensions as at present—123 feet by 42 feet—and an eastern wing nearly square, which contained court-rooms and retiring-rooms, and was built in two stories. A turret staircase, situated at the corner between the main building and the eastern block, gave access to the rooms on the upper story, and also led to the flat roof of the main hall. The windows of the hall, as shown in the engraving, were in two tiers; but this was altered when the new piazza and other buildings were added early in the nineteenth century. The most conspicuous feature in the hall has always been the arched roof made of Scotch oak, with cross-beams, struts, and straining-post, rising from carved stone grotesque corbels so as to form a five-segment span. The roof remains practically in its original condition.

The central fireplace, which is of old Italian workmanship, is a fine specimen of wood carving; the central panel contains a representation of Christ delivering the keys to Peter. It was presented to the Faculty by the late Alexander Robertson, Advocate.

The great window was erected in 1868. It cost £2,000, was designed by Wilhelm von Kaulbach, and executed by the Chevalier Ainmuller, of Munich. It represents the historic event of the inauguration of the Court of Session in 1532 by King James V. The four windows in the west of the hall were erected about 1870.

There are at present fifty-two portraits hanging on the walls of the Great Hall. The collection contains no fewer than eight specimens of the work of Sir Henry Raeburn, R.A. (1756–1823).

Visit to Holyrood Palace and Chapel.

Luncheon at the Carlton Hotel, North Bridge, came as a welcome break in the round of visits. The visitors were entertained by the Edinburgh Association, and their President, Mr. Hippolyte J. Blanc, presided. The function lasted about an hour, and at the conclusion the loyal toasts were honoured.

Proceeding to Holyrood, the various buildings of historical and architectural interest *en route* were pointed out.

Holyrood Palace and Chapel, permission to view which had been kindly granted by the First Commissioner of Works and the Lord Chamberlain, was reached at about 2.15, and Mr. W. T. Oldrieve again acted as leader, and gave the following particulars of the buildings. The Abbey of Holyrood was founded by David I. in 1128 for the canons regular of the Order of St. Augustine. The name "Holyrood" appears to have been founded upon the famous Black Rood of Scotland, which was a cross-shaped reliquary of pure gold with an image of the Saviour, in ebony, inclosing what was then believed to be a fragment of the true Cross. Queen Margaret, the mother of David I., brought this precious relic to Scotland, and in this way we have probably the origin of the name of the Holy Rood or Cross. It is considered that the first part of the church erected was the choir, which was probably rebuilt at a later date, and has entirely disappeared. Much of the nave, which is practically all that now remains, is of a character which is generally thought to date about the latter half of the twelfth century.

Very considerable additions and works for strengthening the church were executed by Abbot Archibald Crawford, who held office from 1457 to 1483. In 1322 the Abbey was plundered by the army of Edward II., and again in 1385 much damage was done by the army of Richard II. It was, however, in 1544 that the Earl of Hertford's army burned the Abbey and Abbey Church, while three years later, after the battle of Pinkie, very extensive damage was done. At this time the roof is believed to have been stripped of lead and the bells taken away.

The nave must have been kept in some state of repair even after this date, since Queen Mary was married to Darnley within its walls on 29th July 1565. The ornaments and furniture, however, were despoiled by the Earl of Glencairn and the Lords of the Congregation in 1567. Shortly after this date it is believed that the nave and aisle arches were built up, as we see them now, with fragments of the old masonry.

After about seventy years of utter neglect the old roof covering was in 1758 replaced by heavy stone slabs, which overweighted the vaulting, and in 1768 thrust out the north wall and reduced the ancient building to the ruinous condition in which we now behold it. The remains show that the work must originally have been designed and carried out with great artistic skill.

James IV. commenced the building of the Royal Palace of Holyrood House about 1498, and continued to expend money upon the work until his death at Flodden in 1513. James V. continued the work, and made certain additions in 1535 and 1536, and the Board of Works had recently restored to its original position a replica of the sculptured panel upon the western front, with the Scottish arms and the inscription "I.R.V." The original fragments of this sculptured panel are still standing in the south-western corner of the chapel.

An attempt had been made recently to revive (a better term than "restore") the interior of the historical apartments, so that a better idea could be obtained of the condition of these rooms before they were spoilt by comparatively modern treatment (or ill-treatment). Mr. Oldrieve drew attention especially to the original wood-panelled ceiling in Queen Mary's audience-chamber, with other points of interest. The more recently built Palace dates from the year 1671, and was built from the designs of Sir William Bruce by Robert Mylne, the King's Master Mason.

The party were afterwards conducted through the State apartments by the resident Inspector of the Lord Chamberlain's Department. The fine oak doorways, the tapestries, and the beautiful plaster ceilings came in for a large share of attention.

A visit to the National Galleries and to the Edinburgh Association's Architectural Exhibition, where tea was served, brought the day's visits to an end.

The Annual Dinner.

In the evening the Annual Dinner of the Institute was held at the Caledonian Station Hotel. The company, which numbered about 120, included Mr. Thomas E. Collcutt, *President*, who occupied the chair; the Right Hon. Lord Provost Gibson, the Right Hon. Lord Justice-Clerk, the Lord Dean of Guild, the Provost of Leith, the Hon. Lord Maclaren, Sir R. Rowand Anderson, LL.D. [*F.*], Sir T. Gibson Carmichael, Bart., Sir James A. Russell, Mr. Hippolyte J. Blanc [*F.*], R.S.A., President Edinburgh Architectural Association; Professor Cooper, Professor Gourlay [*A.*], Colonel F. U. Holme [*F.*], Rev. Dr. A. Wallace Williamson, and Messrs. J. T. Baillie, Vice-President Edinburgh Association; T. Barker, H. Barnes [*A.*] and guest, F. Blanc, J. Bruce, J. Burgess [*H.A.*], C.I.E., J. J. Burnet [*F.*], A.R.S.A., J. T. Cackett [*F.*], J. D. Cairns, A. Lorne Campbell [*F.*], J. A. Campbell [*F.*], W. Y. Carrick, H. C. Charlewood [*F.*], R. F. Chisholm [*F.*], R. W. A. J. Cosway [*A.*], C. B. Cownie, Hon. Secretary Edinburgh Architectural Association; A. H. Crawford [*F.*], A. Cullen [*F.*], J. Davidson [*F.*], E. Guy Dawber [*F.*], F. W. Deas [*F.*], J. W. Douglas, J. B. Dunn [*F.*], T. E. Eccles [*F.*], T. Fairbairn, W. Flockhart [*F.*], J. S. Gibson, Vice-President R.I.B.A.; A. Giles, Alexander Graham, F.S.A., Hon. Secretary R.I.B.A.; P. L. Henderson [*F.*], V. D. Horsburgh [*A.*], J. K. Hunter [*F.*], J. Keppie [*F.*], Rev. David Kilpatrick, A. H. Lamont [*A.*], T. G. Leadbetter, J. Lochhead [*A.*], W. J. Locke, Secretary R.I.B.A.; R. S. Lorimer [*A.*], A.R.S.A., R. J. Macbeth [*F.*], A. L. MacGibbon [*F.*], A. Mackenzie, T. F. Maclennan [*A.*], A. Macpherson [*F.*], D. MacRitchie, E. C. H. Maidman, L. Martin [*F.*], J. H. Martindale [*F.*], J. McIntyre, J. R. McMillan [*F.*], A. J. Meacher [*A.*], D. Menzies, G. A. T. Middleton [*A.*], J. Murray [*F.*], W. T. Oldrieve [*F.*], Vice-President Edinburgh Architectural Association; G. D. Oliver [*F.*], J. Oswald [*F.*], A. N. Paterson [*A.*], J. P. Paterson, T. T. Paterson, A.R.S.A., A. B. Plummer [*F.*], President Northern Architectural Association; R. B. Pratt [*A.*], A. N. Prentice [*F.*], A. R. Prentice, T. D. Rhind [*A.*], F. W. Rich [*F.*], D. Robertson [*F.*], A.R.S.A., T. Ross, G. Sherrin [*F.*], A. Scott [*A.*], A. R. Smith, A. Saxon Snell [*F.*], John Slater [*F.*], Leonard Stokes, Vice-President R.I.B.A.; G. Sutherland [*A.*], H. O. Tarbolton [*F.*], A. T. Taylor [*F.*], H. Ramsay Taylor [*F.*], P. J. Turner [*A.*], W. G. Walker, E. A. W. Walton, R.S.A., J. Watson [*F.*], T. L. Watson [*F.*], G. Watt [*F.*], W. Fleming Wilkie [*F.*], J. A. Williamson [*A.*], W. Williamson [*F.*], and G. P. K. Young [*A.*].

The loyal toasts having been honoured,—

Mr. Leonard Stokes proposed the toast of "The City of Edinburgh." He said he did not suppose he could tell them anything about the City of Edinburgh, and therefore he had not taken the trouble to look up statistics as to the death

rate and so on; but he was in the company of some very pleasant ladies that day, and he hinted to them that he was in trouble—that he had to make a speech that evening, and he asked them if they could suggest any particular beauties in Edinburgh that he could refer to. One of them, looking a little shy, said: "I do not think you should refer to any of us—at any rate not by name." He, unfortunately, rather put his foot in it by explaining that that was not what he meant; he meant architectural beauties, and that made matters worse. He would try, however, as a mere Southerner to apply his remarks to the architectural aspect of the case. They all knew more about Edinburgh and of the beauties of Princes Street than he could tell them, but it struck him, from the architectural point of view, that perhaps one reason why Princes Street was so fine was that there was architecture on one side only. If he might say so again as a mere Southerner, he should like to remark how he recognised personally the exceedingly high standard —he hoped they would not think him presumptuous for saying so—their modern architects attained to. It made a Southerner feel ashamed almost of what was done in the South, and the excellent work that was being done seemed to be the common thing in Edinburgh. Another point was that architects in the South, when they wanted to put up a new building, had to deal first of all with the London County Council and all its regulations; then the district surveyor and his requirements and party-wall notices, &c.; then the claims of owners of adjoining premises as to ancient lights, and the requirements of Borough Councils and others. He understood that in Edinburgh matters were not dealt with in a simpler way, for there was the Dean of Guild Court; but when their plans passed that Court, they could go on without further delay caused by other authorities. Architects in London were hoping to establish a sort of Dean of Guild Court, which he hoped would get them out of the difficulty he had referred to. With the toast he coupled the name of the Right Hon. the Lord Provost, and in doing so he should like to express their thanks to him for the way in which he had entertained the members the previous evening. It was not always that municipal authorities came forward to entertain architects, but on this occasion the Lord Provost and the councillors had given them a very fine welcome, and they had enjoyed themselves very much indeed. He might say that they liked Edinburgh very much, and were enjoying their visit greatly.

The Lord Provost, in reply, said he considered it a high privilege to be asked to respond to the toast. He said last night, and he could only repeat, how pleased the City of Edinburgh were to welcome strangers who came within their gates, and they were particularly glad that they had been able to show the city that day under very much better weather conditions than those that had prevailed during the last fortnight or three weeks. Mr. Stokes had referred to the conditions in Edinburgh as to the erection of buildings. They were fortunate in having very considerable powers, a very experienced Lord Dean of Guild, and a Court to advise with him in regard to matters submitted to them for their consideration. Mr. Stokes referred to the difficulties of architects in other parts of the country in reference to building conditions, but the authorities in Edinburgh were faced with as many troubles as other authorities, and the powers they possessed were, he was satisfied, insufficient. The Dean of Guild Court was considering more stringent rules in connection with the erection of buildings than had yet been enforced, for that was necessary if they were to maintain their prestige for magnificent streets and fine architecture. They had displayed a spirit in modern times to turn the last penny to account by the erection of overwhelming buildings on both sides of even a narrow thoroughfare; the members of their conference, on the other hand, were men who desired to see buildings erected under the very best conditions. It was not by the display of shoddy or poor architecture that the community was to be benefited in the end, but rather by the self-sacrifice of owners. In the circumstance that the meeting of the Institute would be brought to an end the following day there was no opportunity for the city to do more to make the visit a satisfactory one, but he hoped it would have been found profitable and enjoyable.

The Right Hon. the Lord Justice-Clerk, in proposing the toast of the evening, *i.e.* "The Royal Institute of British Architects and the Allied Societies," said he had lived in Edinburgh all his life, and had seen many things which had caused him joy in the works of the architects of Edinburgh, and he had seen some things which caused him and his fellow citizens very great grief. Those who had taken them about the city that day had no doubt taken them past the things they ought not to look at and concentrated their attention on those things which were worthy to be remembered, and there were things in Edinburgh which were worthy to be remembered. They would agree that to come to a city celebrated by the names of Adam, Playfair, and Hamilton was to come to the right place. What these men did was a strong and lasting protest against the state of things which existed for a considerable time before they began to exercise their art—he might say their genius—in improving the architecture of the city. There were no people in the world with whom he personally had more sympathy than those who belonged to the profession of the architect. All other workers in art did pretty much what they liked. They could be successful or unsuccessful, and the work they produced, even if of the best, would not be looked at every day. It might be put away in a house or a private gallery, but the work of the

architect must be seen every day. The poor architect might stand in front of his own work and tell everyone who passed how he had been cut down as to the money he had to spend, and how he had been squeezed by public bodies and others to add what they thought would be an improvement but what he thought would be abominable; and if the architect did that, he thought he would get the sympathy of all right-thinking people. He was glad to say they had had a great revival of public taste, and a great cessation of the ordinary practice, which existed a good many years ago, of everybody, whether he had taste or not, expressing his opinion and urging his views about everything that was done in regard to the architecture of the city in which he lived. There was a great improvement, no doubt. He was not going to enlarge on that; but, being a practical man, he would like to say a word to the architects all over the country as to what they ought to do with their buildings. An architect erected a beautiful building, the admiration of all who saw it. Happy were they who saw it before it had been interfered with. If he returned three or four years afterwards, he might find it perhaps plastered over with notices and with abominable posts with square boards on the top stating that this was the work of So-and-so, and the price of admission into it was threepence. It was enough to make the architects of St. Giles's rise from their graves with shame that the Ecclesiastical Commissioners of the city should keep the doors of that church shut against everyone who wished to go in to see the beautiful architecture, and, it might be, sometimes to sit down and reflect in the quiet of that noble building. But those men at the door, with a demand for threepence, in order that nobody but the aristocracy should be able to get in! Was it decent and right that that beautiful building, dedicated to the worship of God, should be a building where people had to pay to enter? It was not good for architecture that there should be anything of the sort. He should like himself, in going into that church, rather than find it empty except for a few empty-headed tourists talking irreverently, to see a lot of poorly dressed old women going in there in the course of the forenoon—going in quietly and thinking a bit. It might do a great deal of good to a great many of them, and the church would look far better for it. He would suggest to the Lord Provost that he should consider whether it was right that the noble building dedicated to the worship of God should be a place where people had to pay before they went in. Then at Westminster Abbey, what did they see? A notice, "In this way," "Out this way," and a photographer at the entrance-door selling photographs for gain. It reminded him of the old money-changers. Inside they saw a number of big placards in five or six languages describing the buildings and tied round the pillars! And there were worse things than that in Westminster Abbey. He hoped they would all set their faces against the execrable practice of loading the walls of beautiful churches with monuments and tombstones, and splashes of soapsuds that were intended to represent clouds, with impossible angels, and somebody lying in a dress made in the time of Queen Elizabeth. He thought an architect should make it a stipulation before he erected a building that nothing should be put in it and no niches should be cut in the walls without his approval and consent. Why did we surround our churches, about two feet off from the edge of the building itself, with a railing which disfigured the building and had no other effect but to form a receptacle for old hats?—and if there was anything to clear out, the scavenger had to climb the railings to remove it. At one time St. Giles's was enclosed in wrought-iron railings, which he did his utmost and ultimately succeeded in getting removed. He would never have been able to get the railing removed unless he had told the Commissioners it was splendid wrought iron, and anyone would give them something to be permitted to take it away. A contractor gave them £25 for it, and he was allowed to take it down. The abominable railings round St. Paul's Cathedral were not put round it to any good purpose at all. He could mention a great many cases in Edinburgh in which the same sort of thing had happened. For the citizens of Edinburgh he might say they were delighted to see the members of the Institute, and they would like them to stay longer. With the toast he coupled the name of the Chairman, the President of the Institute, who, he was sure, was a representative man amongst them.

The CHAIRMAN, in response, said they felt grateful to the Lord Justice-Clerk for the sympathetic manner in which he had referred to the many difficulties which beset the architect. Those difficulties were not only personal to the architect, but also personal and material to the buildings which he erected. Architects would feel a great deal of sympathy with what the Lord Justice-Clerk said as to paying to enter places of worship and as to his other remarks, but there was one matter to which he did not refer, and that was as to the wretched character of a good deal of stained glass. If they could take a sledge-hammer and destroy some of the stained-glass which had been put up in ecclesiastical buildings it would result in taking away a good deal of rubbish and would add to the beauty of the buildings. He desired to endorse what Mr. Stokes had said as to the reception accorded to them by the municipal authorities; they were delighted with the brilliant reception and with the opportunity of meeting the citizens of that beautiful city. He was afraid that they as Southerners had not a very clear or concise knowledge of the varied and rich history of Edinburgh, and perhaps most of their knowledge really came from what they had read in Sir Walter Scott's works rather than from any other source. They knew more of Jeanie Deans, George Heriot, Captain

Porteous, and Bonnie Prince Charlie—perhaps not quite so bonnie as his devoted followers imagined—than of other great people of Edinburgh. The thanks of the members of the Institute were due to Messrs. Blanc, Ross, and Oldrieve, and others for the great pains they were taking in showing them over the buildings they were visiting and in describing those buildings. He thought it came as a great surprise to many of them to find what beautiful work was to be found in Holyrood Palace. It was a revelation to them. He did not think he had ever seen more beautiful ceilings than those they had seen there, and it would be of great interest to the profession if they could secure for the Institute JOURNAL illustrations of some of that beautiful work. There were many guests there who were not directly concerned in the art of architecture, and who might not be familiar with the work undertaken by the Institute, or the reason for its existence. It might be of interest to them to learn that it was founded in the year 1837, and its purpose was specifically stated in the Charter to be "the general advancement of civil architecture, and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith." Their greatest endeavours should be to maintain the high ideal that inspired the founders, and which they hoped had become a tradition worthy of their art. The work of the Institute and of the Architectural Education Board in the cause of education deserved their warmest support, and in no way could the advancement of architecture be more surely promoted than by the education of the architectural student on sound and comprehensive lines. The system of education now in force was shown to be successful by the large number of students who in recent years had qualified for the class of Associate by passing a somewhat severe examination. Still more striking proof of the efficiency of the present system was furnished by the very excellent work now being done by the younger men. The Associates, by reason of their numbers, had naturally great influence in shaping the policy of the Institute, and he was sure that all classes had the utmost confidence that they would continue to use this influence in a prudent manner, and that their aim would be the highest one—the promotion of architecture. They would consider not what they could get out of the profession, but what they could put into it. It was sometimes said that the aspirations of youth were more liberal, more generous, and more lofty than the emotions that dominate those who had passed the meridian of life. If this were so, let them hope that the energies of the younger members would be devoted to their great art, and that personal feelings would be subordinate to higher considerations. Although the Institute was more and more recognised by the Government and by the London County Council as qualified to render valuable services in matters affecting the art of architecture, the laying-out and developing of new thoroughfares, &c., it was still their earnest endeavour to widen its scope and to render its counsels yet more influential than heretofore. In this connection the Council had recently addressed a letter to the President of the Local Government Board offering its services on the preparation of the Bill which was presently to be laid before Parliament, and which would deal with the development of towns and their suburbs. The Council had appointed a committee * to inquire into the matter and to suggest the lines upon which the expansion of large towns could best be proceeded with. The Bill would no doubt give large powers to municipal bodies in dealing with the improvement and development of towns, and it should be the endeavour of the Allied Societies to bring their knowledge and experience to the service of municipal bodies. It was a matter of congratulation to all those who were interested in this very important matter that the President of the Local Government Board fully appreciated its gravity, and they might be sure that he would view the question of the betterment of towns and suburbs in a broad and statesmanlike way. They also hoped they might be of some assistance in the drawing-up of particular schemes; their education as architects surely made them competent to approach such subjects with some confidence. The Bill, of course, would have far-reaching consequences: it would affect the municipal government of all our large towns, and they saw with pleasure that the President of one of the Allied Societies had already made some valuable suggestions in his address to his Society. He (the Chairman) had spoken at length on this subject, his excuse being that a Bill such as the one contemplated would have important results in regard to the professional practice of many of their brethren. If a wise and comprehensive Bill were passed it should deal a severe blow at the speculative landlord and the speculative builder, and development of our suburbs would be under proper control, and no longer left to the baneful greed of the ground-rent speculator. It was probable that the public would quickly recognise the beneficial effects of a wise development, and would be desirous that new buildings, at any rate, should reach a higher standard than at present obtained. Given well-laid-out thoroughfares and ample open spaces, an improvement in architecture would probably follow. He thought such a Bill, in dealing a blow at the speculator, would also deal a blow at the pirate architect. Let them hope that the aims of the Institute and the Allied Societies would always reach a high ideal. The advancement of architecture could only be attained by well-directed and enthusiastic efforts, by a spirit of self-sacrifice, and by whole-hearted devotion to their noble art.

Mr. J. S. GIBSON, *Vice-President*, proposed "The Edinburgh Architectural Association," coupled with the name of Mr. Hippolyte J. Blanc, President of

* JOURNAL, 29th June, p. 582.

that body. Mr. Gibson said it was fifty years since the Association was formed—he believed by nine members of the profession, of whom four were still living, and two of whom had left the paths of architecture and devoted themselves to other pursuits—more lucrative he hoped. The third was their respected and esteemed City Architect; and the fourth, he believed, was Mr. G. S. Aitken. It must be very gratifying to those gentlemen and to all the older members of the Association to think that their efforts in founding the Association had resulted in enlisting the sympathies and the help of the cultured citizens of Edinburgh, and also of those members who devoted themselves to other methods of making life enjoyable and profitable, who were necessary not only to the architect, but to the whole community. The education of the architect was incomplete without the help of laymen, and they were very grateful to the Lord Justice-Clerk for his many practical suggestions. Architects throughout the country would be extremely grateful if they could have the co-operation of the municipal authorities in the real and true education of architects. The architectural exhibition of drawings ranging back fifty years to be seen at the Mound, for instance, if it could secure from them and their friends their attention and study and their comparison with modern methods of architecture, would influence people to take a sensible view of work which architects did in towns, and would do something to raise the tone and appreciation of architecture, and to make the architect feel that his work was receiving recognition, and so get him to give of his best. It would also be conducive to the common good. The use of durable and good building material had conduced to the production of good work, and the effect of the influence of building material on design was better known and more appreciated now than it had been for many years past. He wished all success to the Association. He hoped that its work in the future would be vital, and even more beneficial in the future than in the past; he was sure that it had the heartiest good wishes of every member of the Institute.

Mr. Hippolyte J. Blanc [*F.*], R.S.A., in reply, said that on behalf of the Edinburgh Architectural Association he acknowledged with cordial appreciation the kindly recognition extended to them. They felt in this jubilee year that they had been fortunate in the honour of having secured the presence of so representative a contingent of the Royal Institute of British Architects as had found their way to that apparently cold, inhospitable region. If their act in inviting the Royal Institute of British Architects to make Edinburgh its meeting-place was a bold one, they took courage in the reflection that they had no reason to be ashamed of the architectural treasures which that beautiful city could show. They were emboldened by the further reflection that the city for well-nigh a century could claim to have been the cradle of architectural genius, from which had gone forth all over the islands some of the ablest exponents of the architectural art of the period. The Adam brothers were Scotchmen. They gave Edinburgh many refined types of their masterly genius before settling in London. Chambers gave them their Royal Bank and Duddingston House before he went South. Burn supplied almost all Scotland's limited requirements of his day before leaving for London in 1844 to complete the great record of seven hundred works—his lifetime labours. Generations of Milnes distinguished themselves in Edinburgh before migrating finally to take their laurels in London. Of more modern men, among many, two prominent names of Edinburgh-trained men, Brydon and Young, were on the roll of honour among architects of fame in the great City of London. But by the "dropping South" of those artists Edinburgh was not left without talent, for if they stood on any of the eminences bordering the city there could be pointed out a host of edifices, erected during the last half of the nineteenth century, which would do credit to any city, ancient or modern. It might be, as he had frequently observed, that familiarity with the charming monuments of which Ediburgh boasts blunted the citizens' sense of appreciation; but they ventured to hope, from the appreciation of the architectural worth of the city implied by this complimentary visit of the Royal Institute of British Architects, that the city (and in this he comprised the civic rulers and the citizens) might be stimulated to a greater recognition and appreciation of what they possessed, and as a result might more earnestly strive to preserve its amenity in all future developments. That the Association had not been during these fifty years inactive, but had in a quiet, unobtrusive manner endeavoured to interest and educate the public taste by persuasive instruction, and not by aggressive clamour, might be recognised in the following. When the Association was instituted fifty years ago there were nine members. To-day the public appreciation of it was evidenced by the increase of membership to nearly four hundred. It had always been an association of architect and collateral members—an amalgamation which had been the strength of the Society in this comparatively small community. For several years the Society carried on its affairs *in camera*; but in 1868, recognising it had a mission, it opened its doors and announced the experiment of popular evenings. On these occasions the public were invited to illustrated lantern lectures upon some phase of architecture popularly treated. The lectures were successful in interesting and instructing the public. For the instruction of its members there was initiated about the same time a scheme of visits to buildings in progress, where details of construction could be seen and explained. To this step succeeded visits to churches and castles in the neighbourhood, and under the able and learned guidance of Messrs. MacGibbon and Ross there were opened up many architectural art treasures,

previously little known and unheeded, until at last they had succeeded in laying under tribute and recording in the printed *Transactions* nearly every structure of any art or historic value, so much so that, like Alexander of old, they had so sighed for more material to master that they had ventured an invasion of the architectural riches beyond the Border by a visit recently made to York. For the further advancement of the professional members, and in view of the lack of systematic architectural education for students, a scheme of class instruction was initiated at which lectures were given on specific subjects towards the preparation of designs to be undertaken by students. These were most popular and successful for several years, but through overcrowding occasioned by the limited accommodation they possessed their efforts were seriously hindered. On the evacuation by the Society of Antiquaries of rooms in the Royal Institution a petition was presented to the Board of Manufactures for the use of accommodation there, and after a time, through the strenuous efforts of the Association, there was established, in 1893, what had been known as the School of Applied Art. The object was to extend the teaching then being carried out under such improved conditions as would make it meet the requirements of students in the building crafts who would become associated with the architect's work. The birth of the new scheme nearly cost the parent its life, for the Association, at all times too generous to become financially strong, crippled itself seriously by its self-imposed burden of financially supporting its offspring. Notwithstanding these larger efforts, classes for study and practice of design were still conducted by the Association's junior section, and money prizes were annually awarded from contributions liberally donated by the members. The Association's energies towards interesting the public had been further shown in its promotion of exhibitions of architectural work in 1885, and again this year. But "tout vient à celui qui sait attendre," and as not the least of its achievements the Association gladly acknowledged and boasted the accomplishment of a long-cherished desire by having at last succeeded in persuading the Institute to make Edinburgh a temporary resting-place in its official pilgrimage. By a fairly long course of strenuous effort to make the art of architecture of some attraction to the public, and even to their own members, their Association felt entitled to claim that it had justified its formation and existence. Under the recent amalgamation with the Institute they looked forward confidently to an increase and strengthening of friendships, and he might safely say they should be found among the most loyal of its branches. Let other cities and architectural associations prosper, but let the Edinburgh Architectural Association flourish was his fervent prayer.

Mr. John Slater [*F.*] proposed "The Guests." He said they would all agree that it was a toast that could in no wise be omitted. The Royal Institute of British Architects, whether it held its dinner in London or in any provincial centre, was always delighted to welcome members of different professions or gentlemen engaged in public work. It was good for them as architects to foregather with gentlemen of other professions, because it enlarged their sympathies, and he hoped the guests would be glad to be there that night. They had with them a number of very distinguished visitors. The Lord Provost was the head of the municipality which had in its charge this supremely beautiful and interesting city—interesting in its memorials of a great past, and beautiful in its modern adornments—and he was quite sure from what they had seen that day that the councillors of the city were fully alive to the responsibility of their position. There were other distinguished guests present as to whose titles it might be forgiven an ignorant Southerner, perhaps, if he was not quite acquainted with what they connoted. He thought they must feel envious of Scotsmen in having the opportunity of attaining to such an office as that of the Lord Dean of Guild. Most of these offices were of interest; no doubt they derived from remote antiquity, and they contrasted favourably with such commonplace titles of the South as Official Referee or Superintending Architect. He quite agreed with Mr. Stokes that architects in the South would be glad to have some such office amongst them as that of Dean of Guild Court. They also had present the Provost of Leith and Sir T. Gibson Carmichael and others, but he would associate with the toast the name of a gentleman who had always taken a great interest in what was one of the most important subjects of municipal business—viz. hygiene and sanitation—he alluded to Sir James Russell.

Sir James A. Russell, LL.D., said it was a great honour that he should be allowed to be spokesman for the guests, who thanked the Institute warmly for their hospitality, and they thanked them still more for giving them an opportunity of becoming acquainted with some of the members of the Institute, and of becoming associated in some small way with those who belonged to that great and noble profession. It was a curious fact that over and over again, from remote times, architecture had been compared to music. It had been called music in space, or frozen music, and all must recognise that that description was true. Everyone who looked at the Scott Monument, at Heriot's Hospital, at Roslin Chapel, to speak of buildings near them, must feel that Madame de Stael expressed their feelings when she said that the view of such a monument was like perpetual and fixed music ("La vue d'un tel monument est comme une musique continuelle et fixée"). It was something for the guests to be allowed to be associated with the feelings and aims and works of those who were creating this glorious music in our midst—something which was not sold, but which

was constantly exercising an educative and beneficial influence in the minds of the public who walked along the streets. They liked to be associated with those who wielded power in the world, and they felt great pleasure in being associated with those who were in reality the historians of all ages; who in their works marked the state of society—the manners, the feelings, the customs, and even the climate of the places where they practised their art. What would one know of ancient cities—of Greece, of the East—but for the architects whose names had perished? They rejoiced to make the acquaintance of those men who had been disciplined by the experience of all trades—who were artists and men of science, and who provided for us such intellectual, as well as emotional, delight as we experience in seeing their works. It had been said that it was the humble men who dared to do bold things, and we must recognise that many bold things had been done by members of the profession—things which ought to hand down their names amongst the immortals. But a very curious circumstance was discovered when we tried to find the names of the architects of some of the great buildings of the past, for they were unknown or obscured. The names must have been known at the time, but no one seemed to think it worth while to preserve them for us to-day. In regard to local architects, the members of the Edinburgh Architectural Association, both in their corporate capacity and as individuals, had taken a great part in public affairs of the city. They had led every movement for the promotion of art training, and especially of applied art training, in the town, and they had sacrificed their means and time in doing so. They had invariably come to the front when any such question had become a matter of public debate, and they had given Edinburgh two, if not more, expositions in the shape of the exhibition of drawings of famous works or projected works, which had helped greatly to promote public taste in Edinburgh. He trusted that members of the Institute would have time to look in at the Exhibition at the Mound, to which Mr. Blanc had made reference. In all the efforts of the architects of Edinburgh for the public weal, and in all the movements by which they had come before the public, he could not recall a single instance where they worked for the personal advantage of the profession or of themselves as individuals. He thought that it was a noble testimony to the members of the profession that, although they had been prominent in all public questions relating to the beauty of the city—in questions of art, &c.—they never said a word for themselves.

At the close of the proceedings the company joined in singing "Auld Lang Syne."

Visit to Roslin Chapel.

By the kind permission of Mr. John Cullimore, Trustee of the Chapel, several members of the party were enabled to visit Roslin Chapel on Saturday morning, the 6th. Roslin is a short journey by train from Waverley Station, Edinburgh. Roslin Chapel is situated at the south-east of the village, on the edge of a steep grassy bank, sloping down to the Esk. The Rev. John Thomson, F.S.A. Scot., very kindly took charge of the party, and described the various points of interest in the building. The church was founded by Sir William St. Clair, third Earl and Prince of Orkney. He succeeded his father about 1417, and built a large part of the present castle and made other improvements and enlargements. The foundations of the chapel were laid in 1446, and the building occupied about thirty-six or forty years. The cost at the present rate of wages would have been about £400,000.

Visit to George Heriot's School.

On Saturday afternoon a visit was paid to George Heriot's School, and the building was inspected under the guidance of Mr. Hippolyte Blanc. The building, a rectangular structure, the interior quadrangle of which measures about ninety feet on each side, was founded in 1628 from a bequest by George Heriot, jeweller to the Court of James VI., for the maintenance and education of a limited number of sons of merchant burgesses. By prudent investment the original funds have largely increased, and the benefits correspondingly extended by the erection of additional outdoor schools. Originally the boys were maintained in residence, but now the institution is conducted as a day school for foundationers and others. The architect was William Wallace, King's Master Mason, and its prototype in details is probably from Denmark. There are many examples of its detail in and around the city. There is nothing to support the statement that Inigo Jones had anything to do with the design. The approach to the school was originally on the north side, and this accounts for the special richness of the treatment of the northern elevation, especially the façade of the arched pend. Within the quadrangle, the chapel building is seen on the south side and the dining-hall on the west side. Classrooms are distributed on the north and east sides. Both internally and externally the elevations are marked by a most liberal display of carved ornaments, symbols of George Heriot's craft; monograms and mottoes, very appropriately and decoratively treated. In 1659 Cromwell's troops occupied the building. In 1820 Lauriston Place, on the south, was formed, and the present lodge, designed by Playfair, was erected.

At the conclusion of the visit a hearty vote of thanks was passed to the principal of the School, Mr. Lowe, and to Mr. Blanc.

Those who were able to extend their visit to Monday were invited to visit the works of Messrs. Redpath, Brown, & Co., Limited, Steel Girder Manufacturers.

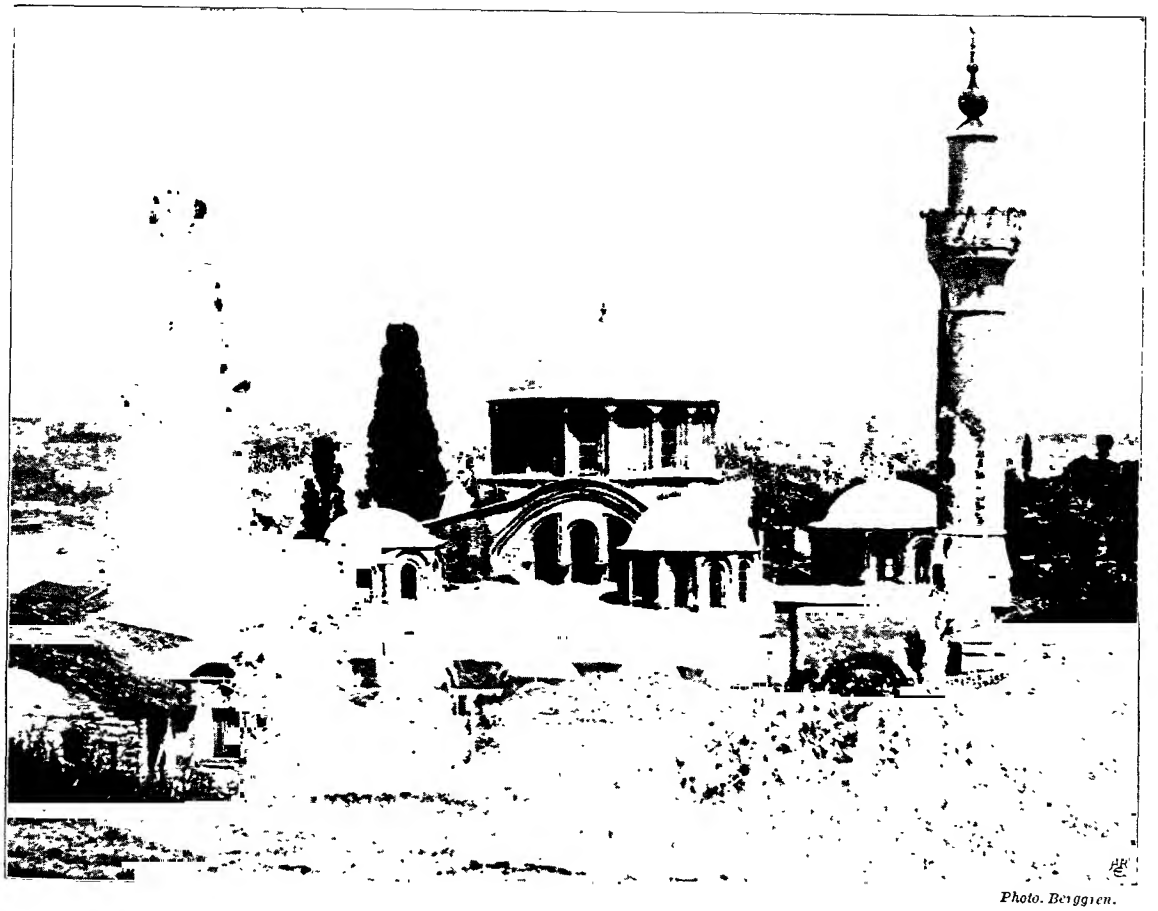


Photo. Berggren.

FIG. 1.—CHURCH OF ST. SAVIOUR-IN-THE-FIELDS, CONSTANTINOPLE.

THE MINOR BYZANTINE CHURCHES OF CONSTANTINOPLE.

By CHARLES GOURLAY, B.Sc. [A.], Professor of Architecture, Glasgow and West of Scotland Technical College.

FEW great cities have a more beautiful site than that which is occupied by Stamboul, the oldest part of Constantinople; for the Constantinople of the present era consists of three parts—Stamboul, Galata with Pera, and Scutari—and these three are divided from one another by water, the first two by the Golden Horn and the latter two by the swiftly flowing Bosphorus.

Stamboul is the ancient Byzantium, which in A.D. 330 was adopted by Constantine as the capital of his empire, and it is in this portion of modern Constantinople that all the Byzantine churches are situated.

Byzantine architecture received its name from Byzantium, for it was here that this style expressed itself in its purest form. The Byzantine style is the direct descendant of those of Greece and Rome. In classic Greek work we do not find the vault, but in the great buildings of the Roman period we find it largely used. This feature – the vault, and its development the dome—was carried to perfection in the Byzantine period, for the dome and its supports form the principal constructive feature of the style. Then the materials available for building

purposes in Constantinople were marble, brick, and lime, and it was in simple wall building and vault construction that the architects could use these most effectively. Further, it is remarkable how the use of the dome in conjunction with the requirements of early Christian ritual led to the square form of plan known as the Greek-cross type, to which nearly all the Later Byzantine churches belong. Directly in the centre of the square the dome is supported either by piers or columns, it being a characteristic of the style that columns were used for constructive purposes chiefly, and here, as supports for the dome, we find the Byzantine use of columns exemplified.

Having remarked on how Roman work influenced the Byzantine, reference may now be made to Greek influence. If we recollect that the builders of the Byzantine period were Greeks—descendants of those who built the classic Greek buildings—we can understand that the spirit of their handicrafts lived on and could not but display itself in all buildings on which they were engaged. This influence is most distinctly seen in Byzantine carved work which is so largely composed of the Greek acanthus, being sharp and prickly, not rounded and soft like the Roman or Romanesque one, but is also apparent in that air of refinement existing in the Byzantine buildings which is not found in Roman work, and which undoubtedly came from Greek sources originally.

That quality of architectural style known as breadth is expressed with rare perfection in Byzantine work, for in it the proportion of solid to void is admirable, while the exceedingly minute and rich carving often found only enhances this quality and makes it more evident. Therefore the Byzantine style is well worthy of being studied by architectural students in order that they may be enabled to grasp this most important quality in architectural design—one which is so much required and so difficult to obtain under present-day conditions.

Throughout the East the exteriors of buildings are kept as plain as they can be, while the interiors are as richly decorated as possible. For instance, an ordinary domestic building in the East is simply a whitewashed mass externally, with an opening for a door; but internally there is a courtyard, generally with a fountain or well in it, surrounded with flowers, and there are doors and windows which all give the interior a treatment and effect little expected by those who view the exterior only. So, similarly with the ecclesiastical buildings of the Byzantine style, their exteriors are remarkably bare of enrichment, and their chief value is derived from their expressing clearly the main parts of the design; also because they show a simple and straightforward attempt to build with the materials at hand. But in the interiors we find that marble is used to cover the brickwork from the floor level to the start of the vaults, this material having received distinctive treatment in design whereby it produces a most beautiful effect while truthfully expressing the fact that it is but a covering.

The vaults are treated in mosaic—broad, quiet, and rich, because of its gold ground—while the floor is generally either of marble slabs or of mosaic. What treatment of the interiors of churches could be finer? Undoubtedly these were of surpassing beauty, and show us the surroundings in which the Christians of the Byzantine period worshipped.

It is the Moslem custom to whitewash the exterior of their ecclesiastical buildings when they appear dirty, and the visitor to Stamboul at the present day finds that all such buildings are either yellow-washed or whitewashed. Those that are whitewashed are mosques erected since the Turkish occupation of the city, while the yellow-washed ones are the ancient Byzantine churches now in use as mosques, to which the attention of the reader is directed in this article, and it is of some of the less known or minor examples that descriptions are here given. Omitting, therefore, the well-known examples of Sta. Sophia—the glory of the Byzantine style—and SS. Sergius and Bacchus, commonly called Little Sta. Sophia, also that of the Holy Apostles which was destroyed in the fifteenth century, the order followed will be

as nearly chronological as possible, having regard to the additions and alterations to which these buildings have been subjected at various times.

The oldest ecclesiastical building now remaining in Constantinople is the Church of St. John the Baptist, which lies in the western part of the city, near the Sea of Marmora, and not far from the citadel of Yedi Kuleh. It was built in A.D. 463, the site having formerly been occupied by a church. The founder was a Roman named Studius; hence the church is often called St. John Studius, or simply the Studion. It was repaired in 1293, seriously injured by a fire in 1782, and is now in ruins. The visitor can see the interior only by looking through the low side windows; for it is not considered safe to enter the building. It was transformed into a mosque, and called Mir Akhor Djamisi, between 1481 and 1512; the narthex, which is the best preserved part of the edifice, being now used for that purpose.

The plan of the church (fig. 2), which is still wonderfully complete, shows it to be of the basilican type, with central nave and an aisle on each side of it, having galleries above the aisles which are now without floors; for these were of wood and have decayed. It is the only basilican church with wooden roof over the nave now remaining in Constantinople; all the other churches have either vaulted or domed naves, and are mainly of the Greek-cross type of plan with central domes. The body of the church is more nearly a square than those of the basilican churches in Rome, which are much longer in proportion. There are seven verde antique columns in the length of the church supporting horizontal architraves which form the colonnade on each side of the nave; only the shafts are preserved, however, for the bases and capitals have been destroyed. The detail of the entablature is also entirely gone, and above it there was an upper range of columns which supported arches and formed an arcade.

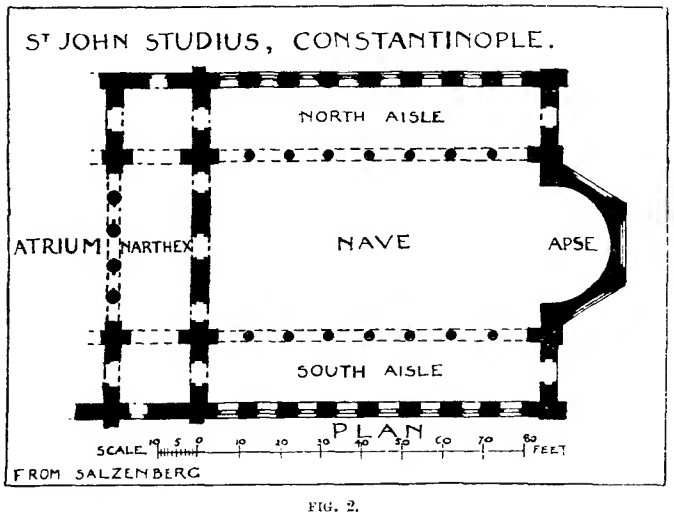


FIG. 2.

The apse is semicircular internally and three-sided externally. There are no windows in the apse, but on each side of the exterior there is a recessed panel having a round arched head.

The narthex has a colonnade of four columns in front which is now built up, but there is a door with a window above it in the central bay, and a window on each side in the bay next to the central one. The columns are of Christian date, although of the Composite order; for, besides the broad fillets at top and bottom of the shafts, the astragal of one of the capitals has a cross carved on its centre, and the several parts of the entablature are enriched with carving; while the cornice, being without a corona, has an effect similar to the interior cornices of Sta. Sophia. The whole entablature is of white marble. The atrium now exists only in outline and has a Turkish fountain in the centre.

The church belonged to a monastery, and the monastic cistern, though now dry, still exists to the south of the church, being only partly underground, while its vaulted ceiling rises above the level of the floor of the church. It has twenty-four columns, six in the length of the cistern and four in its width, having Corinthian capitals which support the vaulting of saucer-shaped domes. At the north-east corner of the cistern there is a small building, which in

plan resembles a Late Byzantine chapel, having an apse through which it is now entered and a groined vault over the crossing. The two columns at the crossing have Ionic capitals. The floor of this chapel is much higher than that of the cistern, although it is also partly underground. A part of the chapel projects into the cistern, and may have been a holy well. Above the vaulted roof of both cistern and chapel there is earth with a rich growth of grass and bushes.

The Church of St. Irene was originally built by Constantine the Great, but was burnt down and entirely rebuilt in 532 A.D. Although it was overthrown by an earthquake and restored in 740 A.D., yet its plan remains practically unchanged. Further, it has never been transformed into a mosque; but since the occupation of Constantinople by the Turks has been used by them as an armoury. Hence if the objects within it were removed it could at once be used for its original purpose. Its plan (fig. 3) is basilican in type, because it has nave and aisles; but the nave arcading is not continuous, the total length being divided into two unequal parts by a broad pier with barrel vault across the nave. This pier gives the plan of the church some resemblance to that of the Church of St. Demetrius at Salonica. Above the arcading there were three ranges of semicircular-headed windows in the screen walls under the large arches which support the domes. With so many windows in the outer walls the domes may well be solid and without windows for lighting the interior. This is the case with that part of the nave nearer the narthex which is covered with a low solid dome, elliptical in plan and without openings for light; while the part adjoining to the east is square and has a dome of circular plan with a high drum containing twenty windows. Considering the large amount of window space in the outer walls, there is not much need for this dome with its ring of lights; and as this

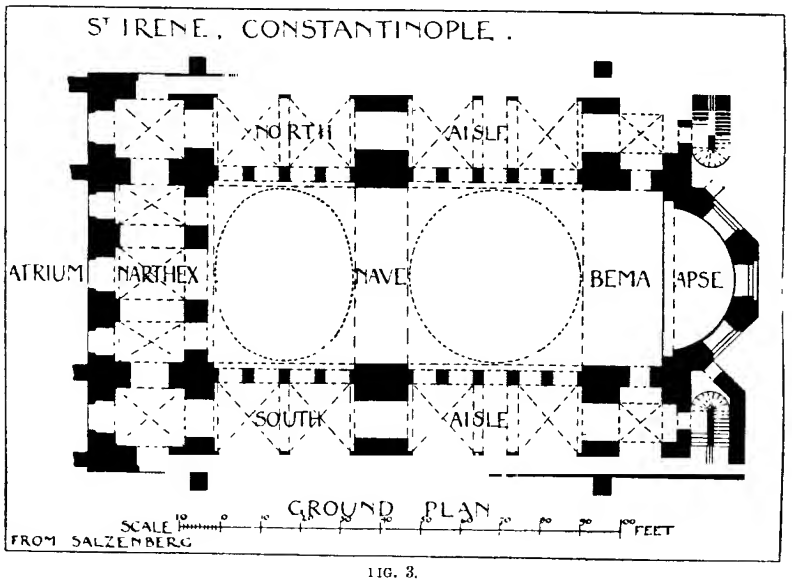


FIG. 3.

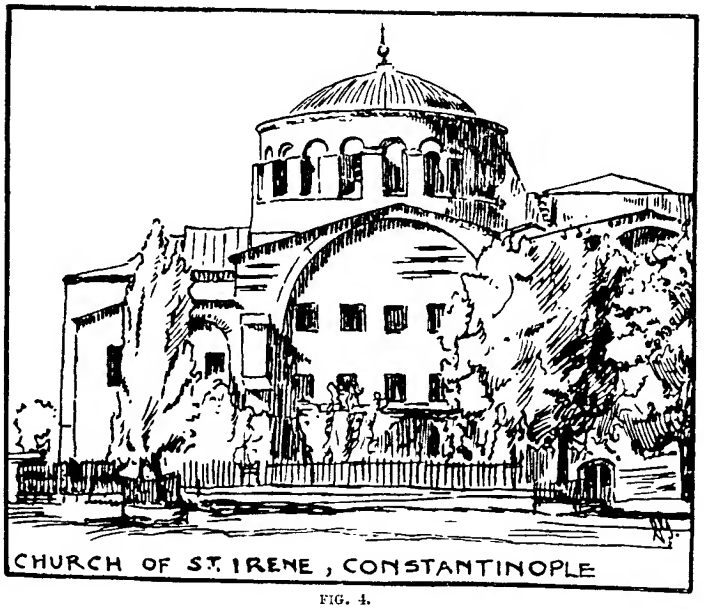


FIG. 4.

dome is thought to be a later addition, its probable date being about 740, there may have been originally a lower dome without window openings over this space also. This dome as it stands is of great interest, for, as Fergusson has pointed out, the light being introduced through the drum and not through the dome itself, as at Sta. Sophia, distinguishes in most cases the two periods into which Byzantine architecture is commonly divided, namely, the Old Byzantine, which culminated in Sta. Sophia, and the Neo-Byzantine, which with few exceptions had domes with high drums through which the light passed. Both domes are formed with pendentives. At the west end there is a narthex with gallery above it, also an atrium which appears to be of Turkish date. The apse is semicircular internally, but polygonal externally, and is lighted by three large semicircular-headed windows. In its interior there are five rows of seats for the presbyters, like those in Torcello Cathedral, under which is a passage close to the wall. There is a large cross of black tesseræ on the gold ground mosaic of the semi-dome of the apse.

The Church of St. Saviour-in-the-Fields, or Monè-tes-Choras (the Monastery in the Country), which was transformed in 1491 into a mosque and called Kahriyeh Djami, is near the Adrianople Gate, one of those in the land walls of the city (see fig. 1, headpiece). Although the original church on the site dated from before 413 A.D., yet of the present building only the central part belongs to as early a date as the time of Justinian—527–565. It was altered between 1081 and 1118 in the later Byzantine manner. Again, at the end of the thirteenth century it was repaired and had the two narthexes added.

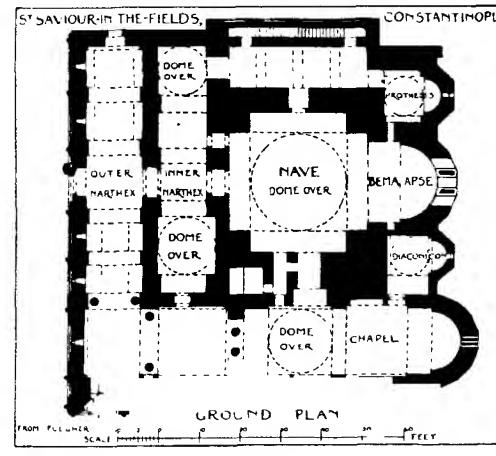


FIG. 5.

The nave is about twenty-four feet square, and takes the form of a Greek cross with very short arms, the eastern one being lengthened by a deep recess and terminated by an apse. The nave is covered with a dome set upon pendentives, and having a high drum in which are windows. Its walls are lined with grey and red marble slabs from the floor to the springing line of the arches forming the pendentives: underneath these arches are semicircular-headed windows. Above this line all is thickly coated with whitewash, which, it is thought, covers mosaic.

The apse is semicircular internally and polygonal externally, having on each side of it small chapels or vestries which have apses to the east of similar form, but with single lights; while the central apse has a fairly large three-light window.

Westwards there are inner and outer narthexes (sometimes called eso- and exo-narthex respectively), the former communicating with the nave by a large door centrally placed, and by a smaller one to the north, which has specially treated jambs, consisting of richly moulded and panelled marble work (see fig. 7). These jambs probably formed a marble door at one time, the panels of which have been sculptured, but the sculpture has been entirely destroyed. Both doors have moulded marble architraves which are mitred at the angles, and have lintels with cornices over. This inner narthex is four bays in length, and has a dome over each of the end bays. These domes are unequal in size and are not symmetrically placed with regard to the centre axial line of the church. They both have high drums ribbed on the inside and have windows as in the central dome. The intermediate bays, as also all those of the outer narthex, have flat saucer-shaped domes. From the northernmost bay of the inner narthex a doorway

leads to a ribbed barrel-vaulted chamber having at its further end a door whereby a staircase is entered which leads to an upper chamber, also barrel-vaulted, from the side of which a window opens into the nave.

The outer narthex (fig. 6) is six bays in length, the last bay to the south giving access to a long chapel of later date than the nave of the church, and extending the full length of the

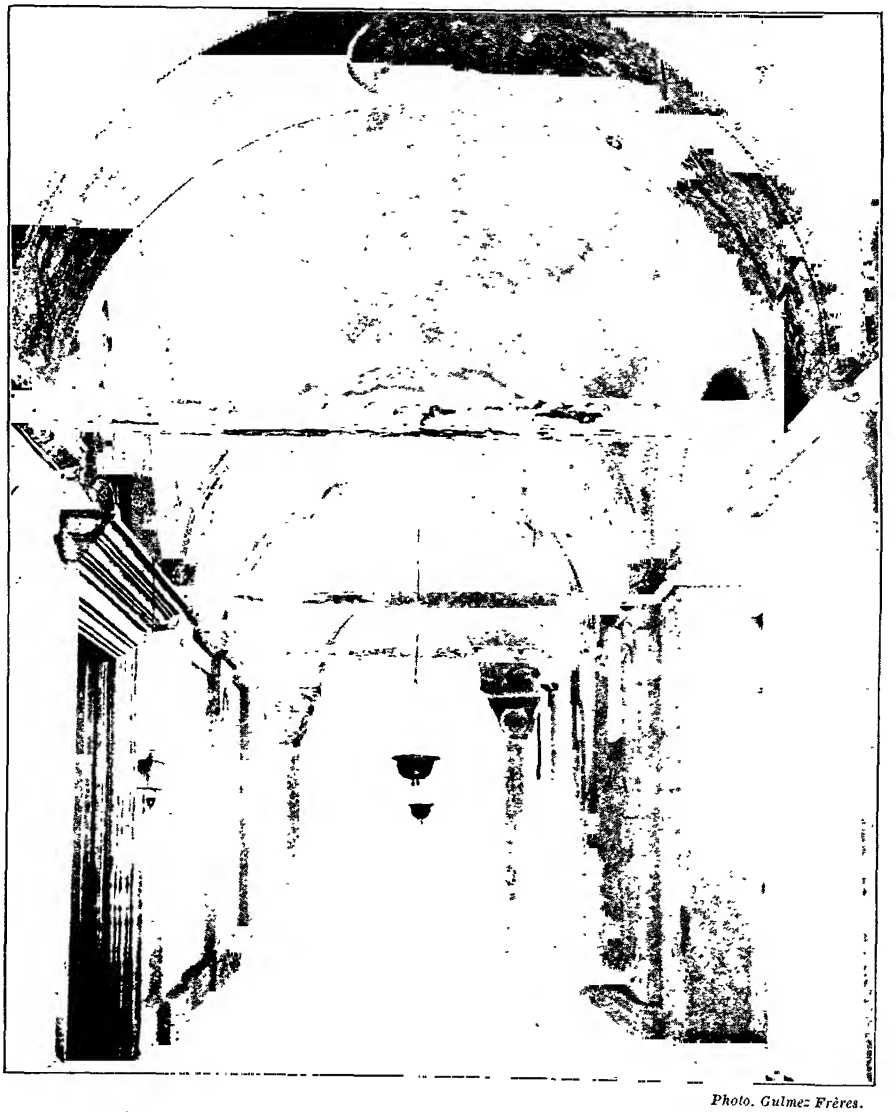


Photo. Gulmez Frères.

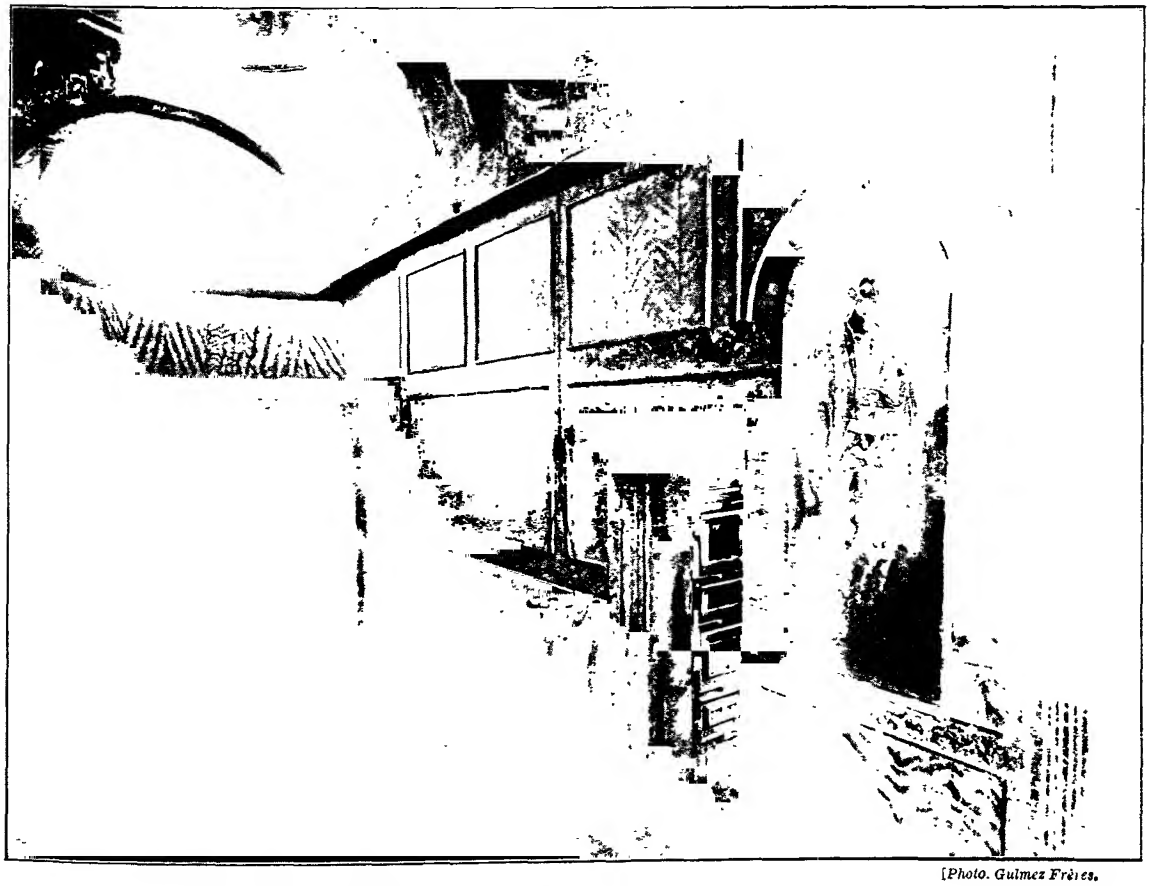
FIG. 6.—ST. SAVIOUR-IN-THE-FIELDS, CONSTANTINOPLE: OUTER NARTHEX, LOOKING SOUTH

building, which has a dome, similar to the others, in line with the central dome and an apse to the east with three small lights. The archivolt and spandrils of a blocked-up doorway in the south wall and also those of the doorway in the north wall under this dome are very beautiful specimens of Byzantine carving. The southernmost bay of this narthex has received special treatment, the two sides to the north and the east having each two columns with beautiful Byzantine carved capitals supporting arches, the whole design being very effective in whatever way viewed. At its south-west corner a small door gives access to a circular newel stair which

now leads to a minaret; but it is probable that this angle was intended to be built as a high tower, and that this staircase was to be connected with it.

Great interest is taken in this church because in the two narthexes there is a series of mosaics of which the greater part is yet intact, although only some of the mosaics have been uncovered. These mosaics are remarkable for the smallness of the tesseræ used, which are much smaller than are generally met with in Italy, for the brightness and the harmony of the colours, as well as the excellence of the design, while the figures are beautifully drawn and executed. These narthexes are paved with white, black, and coloured marble slabs, and both of them have their wall surfaces covered with slabs of most beautiful marble from the floor upwards to the beginning of the mosaics at the springing of the arches.

The principal façade is to the west, and though evidently incomplete shows six large bays and a small one at its southern end. Each of these six bays has been built up, leaving only small window openings in them, except the bay on the central axis of the nave, in which is the doorway. The division of each bay is formed by a massive pier having a round attached shaft without a capital on its face. From a thin stringcourse at the top of this shaft there springs a plain arch in two orders. The edifice is entirely constructed of alternate layers of marble and brick, but the building of the southern chapel is coarser than that of the main body of the structure. The domes and roofs are covered with lead, while the roofs of the four arms of the cross show externally the inner curve of the barrel vaulting which covers them without any ridge. The external grouping of the whole building is most picturesque, and this is aided by the inequality in size and irregularity in spacing of the domes.



[Photo. Gulmez Frères.

FIG. 7.—ST. SAVIOUR-IN-THE-FIELDS, CONSTANTINOPLE: INNER NARTHEX, LOOKING NORTH.

The Church of St. Mary Diaconissa is situated a short distance to the eastward of the Shah Zadeh Mosque. It was founded in 599, but is now known as the Kalender Khaneh Mosque, and is often referred to because of its beautiful marble wall panelling in the interior, which extends from the floor to the springing line of the vaults and dome.

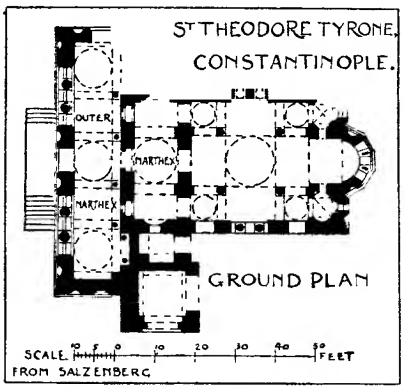


FIG. 8.

From an outer wooden porch a few steps lead downwards to the floor level. The outer narthex has, at the central part where the entrance is, a saucer-shaped dome, while each end is barrel-vaulted; the inner narthex has a barrel vault at the centre of its length and groined vaults at the ends. The nave takes the form of the Greek cross in plan by the position of the four piers which support the central dome, which has pendentives. The drum of this dome is not very high, but it is pierced with sixteen windows between which ribs travel from the springing to near the crown of the dome in the interior, while on the exterior the drum is circular in plan, and the dome is covered with lead in the usual way. Each arm of the cross is barrel-vaulted, and that to the east forms the bema which terminates squarely, as also do the chapels on each side of it; for in this church there is not the usual apsidal termination, either to the bema or the side chapels, which is so nearly universal in the plans of the churches of this period. There are two carved panels in the interior on the western wall of the church which are so classical in style that they are considered to belong to the date of the foundation of the church.

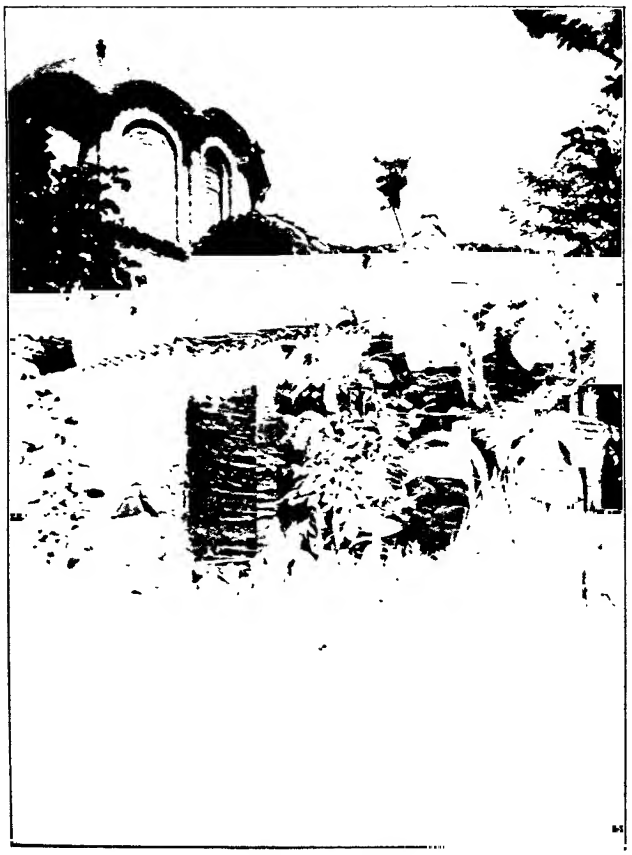


FIG. 9.—CHURCH OF ST. THEODORE TYRONE, CONSTANTINOPLE, FROM THE SOUTH-EAST.
From a Photo by the Author.

The Church of St. Theodore Tyrone, often wrongly called that of the Theotokos, is not far from the Suliemanieh Mosque. It undoubtedly occupies the site of an early church, but the present building is thought to date from the twelfth century, although some parts may be older; and others, such as the upper story of the façade, may be later. It is a small church, and is now a mosque called Kilisse Mesjidi.

The plan (fig. 8) of the church is of the Later Greek-cross type, having four slender columns which support the central dome, thereby dividing it into nave and transepts. From either side of the bema a door leads to a side chapel having an apse which is expressed externally by a semi-hexagonal form, which, however, does not project beyond the line of the

wall. The central apse is segmental internally and five-sided externally, having three rather large semicircular-headed windows separated by columns in the three central sides, while in the other two sides there is recessed blank arcading. Above these windows and recesses on the exterior there is another row of blank arcading, and the wall is finished with a projecting brick cornice above which is the roof tiling. The barrel vault of the bema is penetrated by a window on each side which on the exterior breaks the level line of the brick cornice. This cornice is carried round the arched head of the window, forming a rich hood mould.

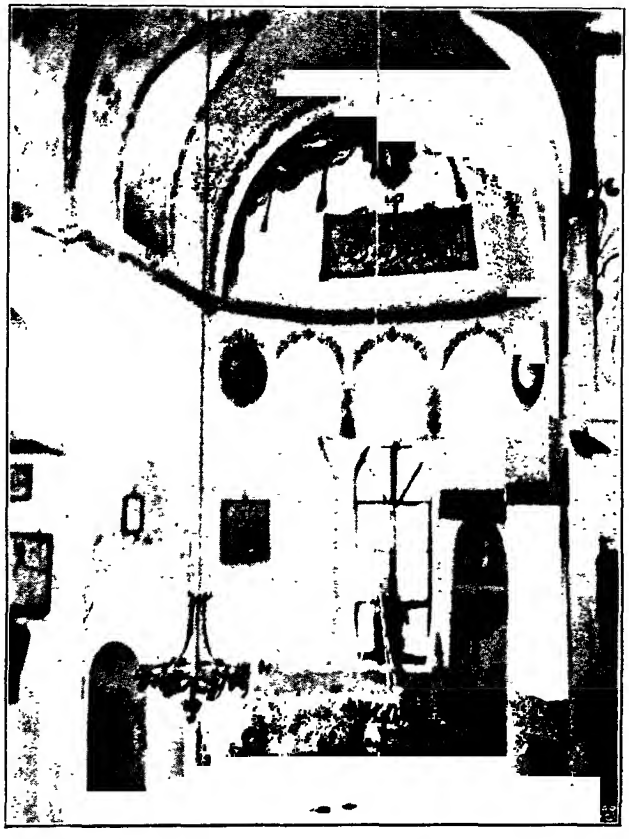


FIG. 10.—CHURCH OF ST. THEODORE TYRONE, CONSTANTINOPLE, LOOKING EASTWARDS FROM THE GALLERY.
From a Photo by the Author.

The drum of the central dome is decagonal externally, and is seen to rise from a square base. Each angle of the drum is enriched by an attached circular shaft, and each face with a blank semicircular-headed window, forming an arcade all round; each face finishes with a deep brick cornice, segmental in elevation, which gives a lobed form to the roof of the dome.

There are inner and outer narthexes, the latter being of considerable interest because of the design of the lower story of its façade, which consists of a central doorway with a niche and then an arcade of three arches divided by columns, on each side of it, and finally between these arcades and the corners a semicircular-headed niche. The columns are of marble, and have richly carved capitals, those to the north being of the melon type, and those to the south Corinthian. Between the columns there is a panelled parapet with carved work of Byzantine type in the panels. Perhaps originally this outer narthex was only one story high, as in that of the Church of the Holy Apostles at Salonica, to which this lower story bears a close resemblance; for the design of the upper story as it exists at present does not harmonise with that of the lower one, hence there is every probability of its having been added at a later date. The façade of the upper story is divided into five bays by large arches which have windows in the screen walls under them. Over the central bay and the one at each end there is a dome having a high drum with a somewhat similar design to that of the central dome over the nave. The whole façade is most picturesque, but it is so thickly coated with yellow-wash that its detail cannot be properly seen. The edifice is built of bricks with intermediate layers of marble in the usual manner. The site is so closely surrounded by houses, with only a narrow street in front, that it is not possible to study the composition of the entire building on the spot.

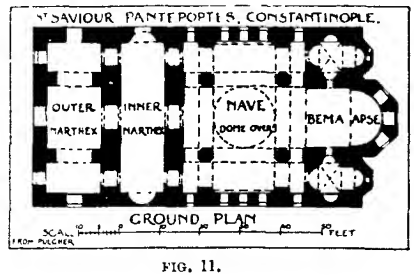


FIG. 11.

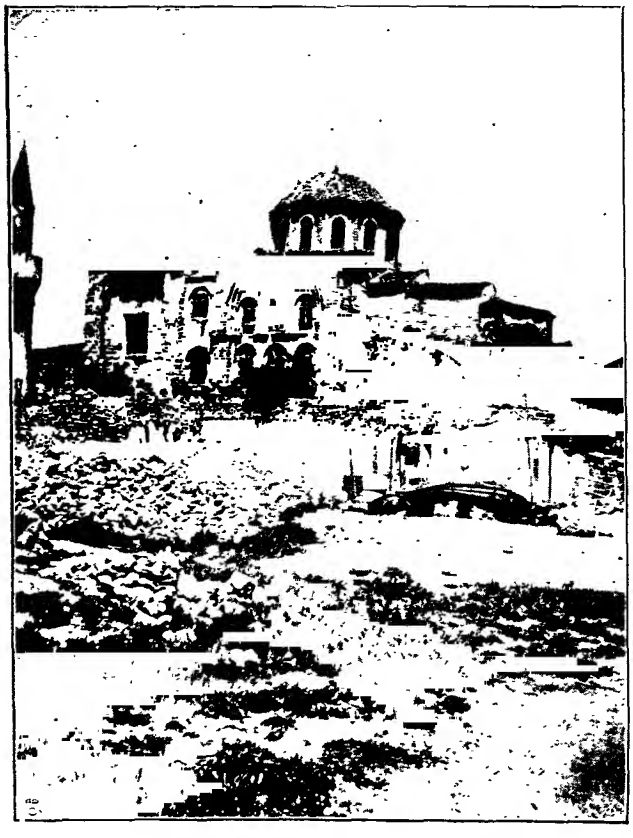


FIG. 12.—CHURCH OF ST. SAVIOUR PANTEPOPTES, CONSTANTINOPLE, FROM THE SOUTH-EAST.
From a Photo by the Author.

The monastic Church of St. Saviour Pantepoptes (the All-seeing) is near the mosque of Mohammed II., which is built on the site where the Church of the Holy Apostles stood. The church was built early in the twelfth century, and is a fine example of the work of that period. It was transformed into a mosque on the capture of the city by the Turks in 1453, and now bears the name of Eski Imaret Mesjidi. Although it is not a large building, it has a very complete plan, consisting of exo-narthex, eso-narthex, nave of the Greek-cross type, bema, apse, and side chapels, all well proportioned to one another and built in the Later Byzantine manner. The dome is supported at the crossing by four octagonal pillars, the apse is of the usual form with three large semicircular-headed windows, one on each of its sides, the side chapels being of beautiful plan and terminating eastwards in apses with single lights.

On the exterior of this church the quality of breadth is expressed in no slight degree. A Romanesque building of this date would be greatly broken up with pilaster strips, but there is nothing of the nature of a pilaster here—all is broad, simple, direct, while the central dome is of exceptional beauty. The drum is duo-decagonal on plan, with engaged columns at the angles, while in each of its sides there is a semicircular-headed window which has the usual brick cornice for hood mould, forming a fine example of the lobed form of roof so often found in Later Byzantine domes.

The Church of St. Theodosia is situated about halfway between that of Pantepoptes and the Golden Horn, slightly to the westwards. The date of its erection is unknown, but from

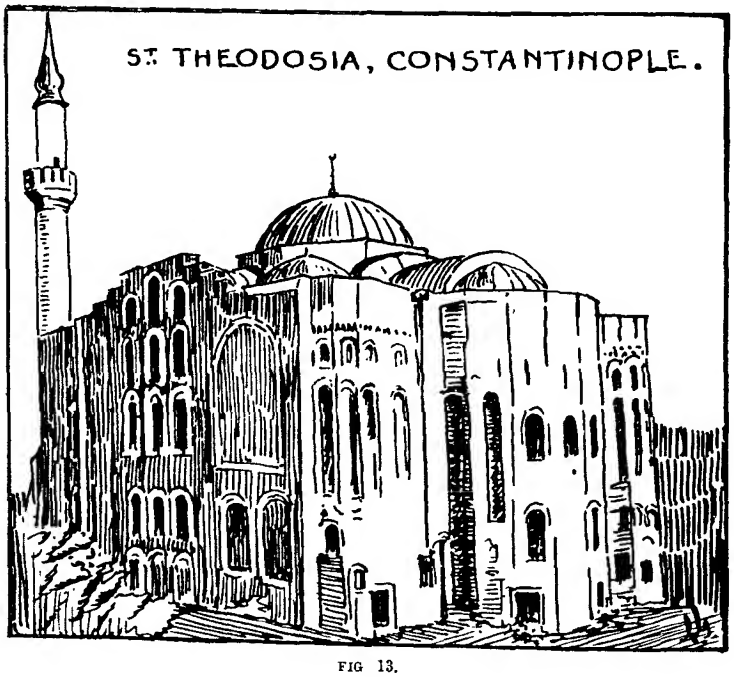


FIG 13.

its style it is thought to belong to the tenth or eleventh century. During the sixteenth century it was consecrated to the Mohammedan faith and named Gül Djami, *i.e.* Mosque of the Roses. It is of the Greek-cross type in plan, and is in a remarkably well-preserved state at the present time. The interior is very well proportioned, and has galleries round three of its sides. The dome over the crossing has a low drum, and there are no openings for light either in the drum or dome, which are so commonly found in Byzantine churches of this period; but the lowness of the dome and want of provision of light from this source may be accounted for by the large and regularly placed windows in the outer walls of the building, for the interior is excellently lit at the present day. There are bema, apse, and side chapels, as are usually met with in churches of this type; but the narthex is of wood and is modern. Externally it is an extremely plain building, its chief feature being its great height, which makes it quite imposing.

The Church of St. Saviour Pantokrator (the Almighty Father) is situated on a hill near the inner bridge over the Golden Horn. There was formerly a monastery here, and what now remains is really three contiguous churches. The two outer churches are of the Greek-cross type in plan, each having a central dome carried, in the case of the southern church, on four clustered columns, while in that to the north it is supported by four small piers, and each church has its central and side apses, semicircular internally and polygonal externally. The central apses have each seven faces on the outside: a three-light window occupies three of these faces, while the others have deep semicircular niches. The side apses have each a single-light window to the east.

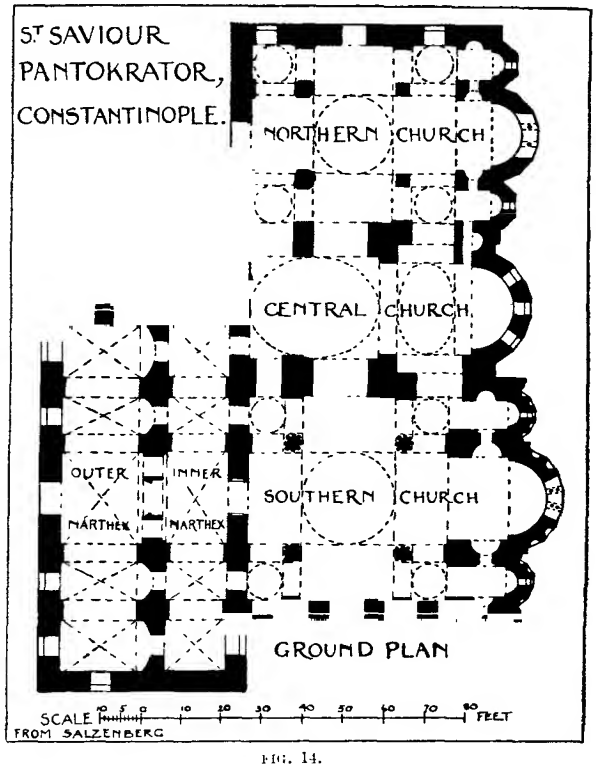


FIG. 14.

The southern church is the largest, and has inner and outer narthexes; hence it is probable that it served for parochial purposes, while that to the north was the conventual church. The church to the south is alone now in use, and it is a mosque called Zeirek Kilisse Djami. The church which separates the other two, occupying the space between them, is simply a hall covered by two elliptical domed ceilings and having an apse, toward the east, of somewhat similar form to the central apses of the other two churches; but its three windows are separated from one another by one of the exterior faces of the apse instead of only by columns. There are no side apses forming part of the central church. The division walls between the churches are pierced by wide semicircular-headed openings which would allow the utmost freedom in passing from the one church to the other. The central church may have been the mausoleum of the emperor Manuel Comnenus, who died in 1180. Regarding the date of this group of churches it is probable that they belong to the twelfth century.

If the thick coatings of whitewash were taken off the interior and exterior of these buildings much beautiful Byzantine carved detail would be seen. At the present time the existence of such detail is only found either by close observation of the whitewashed surface, or where the coating has fallen off the carving is seen to be as perfect as the day it was executed.

There is a fine piece of marble pavement with slabs of red porphyry inserted in it at the junction of the central and southern churches. The pulpit contains much fine Byzantine carving. The edifice generally appears to be built of brick and marble intermixed, but the jambs of the central door between the narthexes are of beautiful monolithic slabs of red marble richly moulded, and no doubt originally the interior was lined with marble from the floor to the springing of the vaults.

The conventual Church of St. Mary Pammakaristos is on the highest point of the valley of the Phanar; and though its five domes group picturesquely on the exterior, the interior is low and heavy. The central part of the church is of the Greek-cross plan, but instead of four slender columns at the crossing, which are so usually found in churches of this period—about the twelfth century—there are here four very heavy piers supporting the central dome, and the arches joining these piers are heavy too. There are inner and outer narthexes, also chapels to the south and north, which combine to make a rather complicated plan. The domes all have high polygonal drums which are pierced with semicircular-headed windows. The north-eastern dome has internally very beautiful mosaics, while in the south-east corner of the church there is one of the most beautiful little Byzantine chapels extant. The interior of this chapel is all white-washed, but externally its central and side apses are clearly marked, and the polygonal central apse is richly treated with three rows of blind arches divided in the central row by beautiful carved pilasters between which no doubt there were originally windows; but now these are filled up excepting a narrow slit in the central space. The cornice is deeply corbelled and has a bold yet rich effect. On the north side there is a long stringcourse, with an inscription in Greek carved upon it, which has a fine decorative effect; altogether this chapel is of particularly good design in the Later Byzantine style.

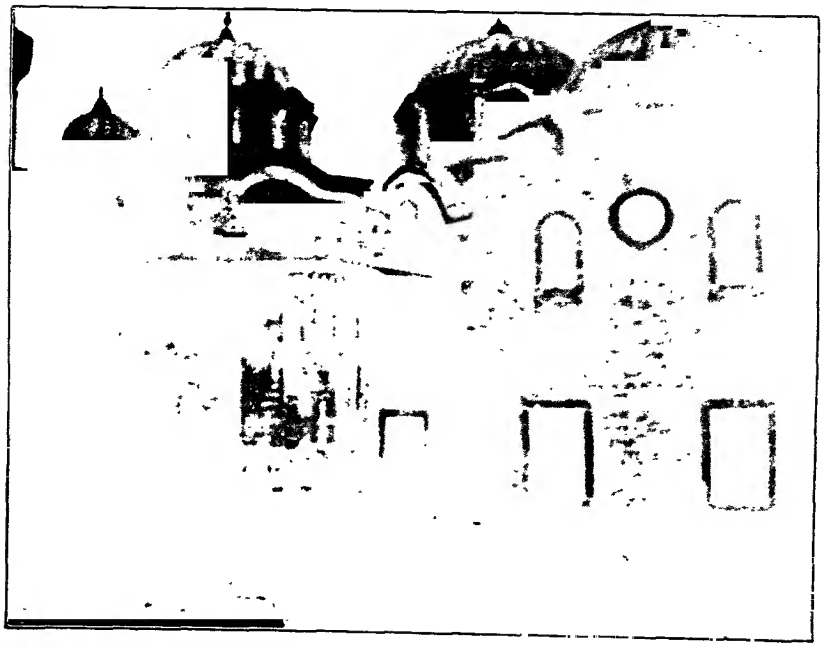


FIG. 15.—CHURCH OF ST. MARY PAMMAKARISTOS, CONSTANTINOPLE, FROM THE SOUTH-EAST.
From a Photo by the Author.

The church was the seat of the Greek Orthodox patriarchate from 1456 to 1591, when it was transformed into a mosque named Fetiyeh Djamisi, *i.e.* Mosque of the Conqueror, and probably to this time of change belongs the square eastern part of Turkish design and execution which occupies the site of the original central apse of the church. In itself this portion is not without interest as showing how the Turks altered the original building to make it suitable for their own purposes, while externally the peculiarly Turkish way in which the low octagon rises from the square base, and is roofed with a circular dome covered with lead, is very fine; but the whole is certainly out of place at the east end of a Byzantine church.

The Church of St. Mary Mouchliotissa (the Mongolian) is a small church which was founded in the thirteenth century, and though still a Greek church is known by the Turks as Kan Kilisse, *i.e.* the Church of Blood. Unfortunately the church has been so greatly altered and added to, that its original plan is difficult to trace; but the Byzantine part which remains shows that it was of great interest, and that it bore some resemblance to that of the Church of the Holy Apostles at Athens. It appears to have had a square central space roofed by a dome, and on each of its four sides there were apses each of which had three smaller apses springing from it.

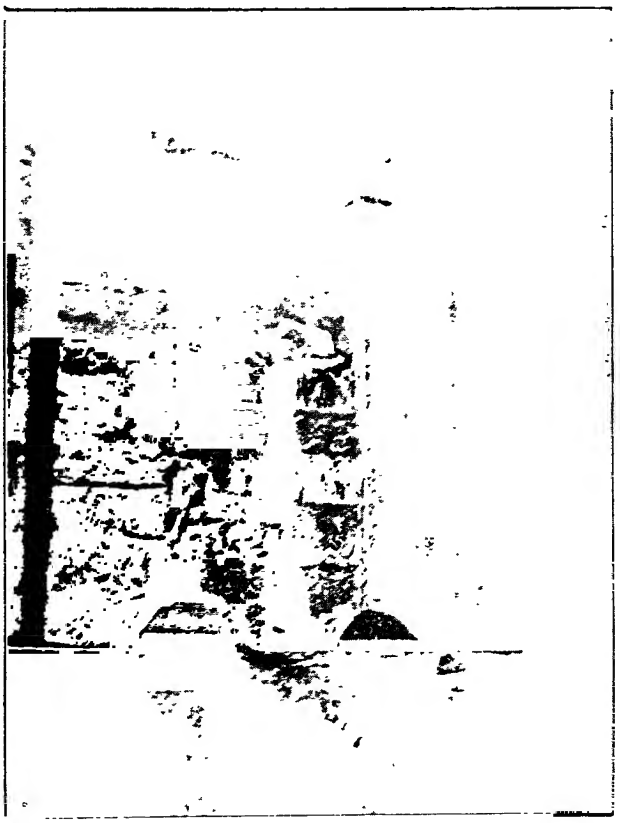


FIG. 16.—CHURCH OF ST. MARY PAMMAKARISTOS, CONSTANTINOPLE: DETAIL OF EXTERIOR OF BYZANTINE CHAPEL.
From a Photo by the Author.

Reference to a distinctive feature of these Byzantine churches in Constantinople will fitly close this article. It is remarkable that nearly all the churches herein referred to have both inner and outer narthexes, the exceptions being St. John Studius and St. Irene, which have atria, and St. Mary Mouchliotissa, the plan of the narthex of which is uncertain owing to its having been entirely altered. This double narthex exists, along with the atrium, only in Sta. Sophia, Constantinople, and its existence in this instance may be accepted as a necessary part of this great church; but it may be considered worthy of remark that probably the outer narthex of these later churches took the place in the service of the church and in the plan occupied by the atrium in the early ones. Of course there are early churches with both inner and outer narthexes, such as the Eski Djouma Mosque at Salonica, but the double narthex is not a feature of Western Christian churches; and this leads to the reflective remark that the requirements of the ritual and the architectural treatment of these Byzantine churches are inseparably allied, and in combination form a harmonious and beautiful style.

NOTE.—The plans accompanying this article are all to the same scale as those of the churches of Salonica (dealt with on pages 33 to 48 of the present volume), to enable the reader to compare easily the relative size of the churches of Constantinople and Salonica.—C. G.

GREATER LOMBARDY.

"Quod si judicium illud vulgatum dialecticorum tam operosum fuerit, et tanta ingenia exercuerit; quanto magis laborandum est in hoc altero, quod non tantum ex mentis penetralibus, sed etiam ex naturæ visceribus extrahitur?"

I BELIEVE that Signor Rivoira will appreciate the reasons which have made me place at the head of this article a sentence from the *Novum Organum*. In his modesty he would deprecate any comparison of himself with Francis Bacon, but he must needs admit that his reiterated plea for a *true induction* has a ring that recalls very vividly the pass-word of England's great philosopher. Bacon, to be sure, was busy in the realm of natural science, while Signor Rivoira is concerned with the products of a human art; * but the process of gathering and using for logical purposes the facts or phenomena out of which alone classification can be systematised is much the same in either field. Both men have their quarrel with those who are content to adopt the axioms of others without an appeal to the evidences, or to form their own axioms on phenomena incorrectly classed.

There is surely something truly Baconian about the impetus with which he flings himself on the task of dissipating chaos. "The opinions of writers on the origins and development of the great architectural styles practised in Europe between the year 1000 and the advent of the pointed-arch are so diverse, and so dense is the tangle of 'influences' (Roman, Gallo-Roman, Byzantine, even Arabian and Barbarian) woven into these origins by authors who deign when facts are wanting to take their stand on fancies, that it is no easy matter to unravel them. And not only"—I am roughly paraphrasing Signor Rivoira's Italian—"not only have we to combat the constant and erroneous belief that the Christian styles of the early middle ages receive their guidance and inspiration from the East; we have further to reckon with (1) the lack of sufficient knowledge (historic, philologic, constructive, static, and artistic) in many of those who approach the problem of the middle ages without understanding it, and who, moreover, either cannot or will not handle the main issue without involving themselves in secondary interests; (2) the reluctance of some to open their eyes to the clear, tangible truth of facts, preferring even vague probability to naked verity; (3) a certain spirit of conservatism which abhors all that is new; and lastly (4) the general confusion which prevails as to the age and true characteristics of the buildings erected in the styles under discussion."

All this surely has the true touch of Verulam; and what brings us nearer than ever to the spirit of my text is this outbreak of aspiration: "Hard must be the road that I take and steep the mountain whose still virgin summit I aim to reach; yet by long preparation, by the gathering of knowledge that cannot come from schools or books, and by seventeen years of research and study, covering some thousands of buildings scattered throughout the ancient Roman world, I shall struggle to gain that summit and to plant there a standard in the name of archæological science." Is this not paralleled by the exclamation of Bacon?—"If that familiar process of the old logicians was so laborious and exercised such great wits, how much greater will be the toil in this other method of judgment which is extracted, so to speak, not out of the recesses of the mind, but from the very bowels of Nature."

You see the parallel. Rivoira's plea, like Bacon's, is that we must widen and systematise our evidences instead of sticking blindly to our assumptions or compiling our facts in undigested array. Our supposed conclusions on architectural developments and origins though based on data may be wrong, simply because we have not collected data enough, or not examined those data with sufficient care. Or, worse still, we may have adopted or invented theories of architectural progress which have no sane relation to facts at all.

"Therefore," says Signor Rivoira, though not in so many words, "follow me. I have, to be sure, an idea of my own about the development of mediæval architecture, and like other philosophers of art I should like to see it proved and established, but we will act, if you please, not merely by taking this idea as the nucleus and gathering the facts round it, bringing the convenient facts into strong light, and putting the awkward facts in the background, but we will collect all we can, placing no limit but human capacity on the size of our gathering ground, and having marshalled all we can collect we will let the facts decide how far the theory holds good. For practical convenience we will classify the material more or less geographically and more or less chronologically, but wherever a question of origins calls for allusion to another country or another date, we will transfer our glance to that other land or period, and call up the illustrations that will meet our case." Such briefly is the author's method.

In his earlier volume (which, by the way, was reviewed by me in this JOURNAL five years ago under the title "Ravenna's Claim" *) Signor Rivoira set forth with great wealth of illustration (and in the most beautiful of European languages) his view that the Italian styles of the first ten centuries after Christ were essentially Italian, and by no means derived from Byzantine or other external sources.

In that volume, to quote his own words, he "traced the origins of the Lombardic vaulted (or round-arched) basilica, that great trunk, so to speak, from which were taken the cuttings which in turn

* "Le origini della Architettura Lombarda e delle sue principali derivazioni nei paesi d'oltr' Alpe." Vol. II. By G. T. Rivoira. Rome. Price 55 fr. Ermanno Loescher & Co. 1907.

* JOURNAL, 25th January 1902.

propagated the primary and secondary styles that flourished in so great a part of Europe during the twelfth and thirteenth centuries. He will now follow the history of its principal descendants in the Transalpine countries, confining himself to the main or principal derivatives, and leaving out of present consideration the secondary developments.

His guiding thought he expresses as follows: "With the appearance of the Lombard basilica, there sprang up beyond the Alps a whole crop of new-born building methods like flowers in early summer, and chief among them the styles which I prefer to call the Lombardo-Norman and the Lombardo-Rhenish. The term 'Romanesque,' though commonly applied to an extended period of mediæval art, does not seem to be justified, for if employed at all it might reasonably be applied to the Byzantine style, among others, seeing that the round-arched Byzantine basilica in its most favourable expression—the church of Santa Sofia at Constantinople—undoubtedly took its birth in the Baths of Rome.

"Under the sponsorship of the Benedictines, who carried them across the Alps, nurtured them, and adapted them to the rites of their order, these two styles, modified to suit the tendencies, genius, and climate of the nations into whose country they were transported, clothed with new forms and treated with a variety of new ideas, travelled far and grew apace under the guidance of these same monks."

Signor Rivoira's former task was, as I have pointed out, to prove the Italian origin of Italian architecture previous to the year 1000, or, in other words, to discount the supposed influence of external forces. In his new volume he is on less certain ground. His issue is less definite owing to the wider scope of his field, and his battle has a less clear crisis.

The theory that the entire round-arched architecture of Europe is bred from the architecture of ancient Rome can only be proved or disproved in a relative measure. On the one hand, not even Signor Rivoira would contend that the later and more distinct phases of these styles owed nothing of their characteristics to their remoteness in time and place; even he would not deny that special localities and special periods introduced into the style features and forms which were not necessarily copied from Roman originals. On the other hand, the champions of national authority in design, even the keenest of them, would seldom go the length of asserting that there was any phase of Romanesque, Norman, Saxon, or Rhenish building which lacked visible derivation from that barbarous and beautiful style which in turn grew out of the ruins of classic Roman art.

In fact, art being what it is—a human activity so dependent on transmission as to be one of the strongest proofs of man's inevitable fellowship with his predecessors—it is sometimes as unnecessary to prove its continuity as to insist on its diversity.

It is one thing for Signor Rivoira to prove or at least to claim that the supposed westward flow of the work at Ravenna is in reality an eastward stream; it is another to insist too urgently that features which in later European art are apparently innovations are really evidences of "harking back" to Rome. It is, I know, ungenerous to press a criticism of this kind, especially as Rivoira draws his comparisons with the utmost moderation, bringing them forward rather as interesting correlations of style than as irrefragable proofs of origin; but I may explain my meaning by taking as an example the author's remarks on the circular openings with which we are familiar in the beautiful upper stage of the tower at Norwich. They remind Signor Rivoira of the similar rings on the Tomb of Eurisaces near the Porta Prenestina, with which indeed they are identical. But one plain circle is necessarily very like another, and it is at least doubtful whether similarity or even identity in so simple and obvious a form has any real significance. An interesting specimen of Signor Rivoira's fearless attack on received opinions is to be found at the close of chapter iv., which is the second of two chapters dealing mainly with the British Isles. He here makes a digression on the subject of the "Norman" buildings of Southern Italy and Sicily. "There are," he says, "writers on art who think that the basilica of the countries conquered by the Normans in Sicily and South Italy is based upon the Lombardo-Norman church; but in reality an examination of the most notable churches of this region (and period) leads to the discovery that in them are to be found only two characteristics inspired by the Lombardo-Norman cathedral, and these two characteristics are the plan itself and the use of intersecting arcades." He goes on to point out that they have on the other hand at least twelve strongly marked features which are not common to Norman architecture, but are for the most part exhibited in the earlier Lombard styles.

When a man has set himself to work on the line adopted by Signor Rivoira it is easy enough to direct against him the particular criticism that certain examples are missing, the absence of which makes his induction incomplete. It is obviously impossible for any single treatise or even a limited period of architecture to contain allusion to every building which falls within the period's range. It is therefore unfair to hurry to the index of this book and forthwith to complain that one has discovered an omission. But it has, oddly enough, happened to me to visit Loches during the weeks in which I have been studying this book, and on my return to England I turned with interest to the volume to find what Signor Rivoira had to say about this church, which so far from being a common-place example of Norman or transitional work is a building of almost solitary character. For some reason this strange church is left out of the author's record.

Writers of the last generation, men who saw Byzantine influence in the domes of St. Front at Périgueux, were puzzled by the hollow pyramids of Loches as being, so to speak, a vernacular solution of the problem which at St. Front was settled by the use of the Oriental dome.* It would be specially interesting to know what view Signor Rivoira takes of this building, of which Viollet-le-Duc wrote that it was "a strange and unique monument in which the influences of Oriental art are blended with the methods of construction adopted in the north at the beginning of the twelfth century."

Again, to take another example in the same neighbourhood, I am disappointed that we have not as yet Signor Rivoira's view of the domes of Fontevrault.

I have put forward these points not by any means as adverse criticisms, but merely because the interest which this volume arouses makes one naturally wish for an extension of the author's view to cover the whole of his legitimate ground.

In any case the world of architectural students owes him thanks for bringing his group of examples together, and for connecting them around his interesting theory.† A writer who is bold enough to set forth on a large view of this large subject, who has the courage to open our eyes to the unity and immense reach of that great art which even in days of turbid government and laborious travel could override the boundaries of nations and link the centuries by a continuity of tradition that defies time, is at once enlarging (and simplifying) our grasp of the subject, and is at the same time breaking down those artificial classifications which are apt to be engendered by national and chronological analyses. Supposing Signor Rivoira's theory were unsound—which for my part I am far from thinking it to be—there would still be great value and great truth in his view that the architecture of Europe in the first twelve centuries of our era must be studied as a central force, even if we also, and rightly, study it in geographical and historical departments. If any man doubts the power of an architectural impetus to pour over vast tracts of alien country with the force of a torrent, he can prove it to himself by an example much nearer in date than the Lombardic period. The Renaissance, that second Italian wave, rushed not merely through the wide channels of European courts and commerce, but sent its ripples lapping into the remotest creeks and caves. I remember walking some years ago into the market-place of a small town in Brittany to find facing me an apparently Gothic church. Its tower, its outline, and in a general way the shape of its windows conformed to Gothic type; but when approached this village church showed that on every moulding, on every stringcourse, arch, and jamb there lay, most tenderly and most delicately, the mark of Italy's revival. The thoughts and skill of Tuscany and Rome had travelled, welcome pilgrims, to this far-off spot, and had there broken through the traditions to which generation after generation of church masons had clung. If the whim of princes could so foster in France the methods of Italian culture as to transplant into a remote untutored district the conceits of Alberti and Bramante, how can we wonder if a society greater than any aristocracy and less limited than any court—the Catholic Church herself—was able to stamp an identity of character on the buildings which after all have no meaning except the meaning which implies and involves community?

PAUL WATERHOUSE.

* I notice that Signor Rivoira, contrary to expectation, speaks of St. Front as being "di stile bizantino-veneto, rannodantesi all' Oriente con l' intermediario di San Marco," though he insists, as do other authorities, on the comparatively late date of the church, making it 1120 instead of 1047. One would expect to find him taking a firm stand for the European origin of this domed building, which eleven years ago was proved by Mr. Phenè Spiers to be not Byzantine but indigenous.

† The general plan of the work is easily explained. The introduction is followed by a chapter on the "Lombardo-Norman" architecture of Burgundy, and this, again, by one on the development of the same style in Normandy. Britain is then represented by two chapters, the first being on religious architecture in our islands before the Conquest, and the second on the "Lombardo-Norman" work which the Conquest introduced. Lastly come two corresponding chapters on Germany, the earlier carrying religious art up to the year 1000, and the later dealing with the fully developed "Lombardo-Rhenish" style. There are over 650 illustrations, and as the author keeps up throughout the volume his interesting method of retrospection, the photographs found under any given geographical or chronological heading are often of subjects very far removed n time and place.

SCHOOL HYGIENE.

Buildings and their Equipment.

Mr. Thomas E. Collcutt, *President R.I.B.A.*, presided over the section "The School Building and its Equipment" at the International Congress on School Hygiene held at the London University from the 5th to the 10th inst. The following is an extract from his Address delivered at the opening of the sitting:—

In designing school buildings, the architect is generally obliged to limit his expenditure, so that there are seldom opportunities for much ornament or display. This in itself is not a disadvantage. There is no necessity for elaboration of design, but fine architecture is always desirable, and is quite possible without rich and expensive detail. In every school building, however simple in general construction, there should be at least one feature of architectural worth. Should this be a fine doorway or any other detail, let it be good enough to be a source of pride to the school. An important factor in education is the development of that appreciation of beauty in art or nature which is latent in most of us. If school teachers can learn to be proud of some part or feature of their building they will be able prob-

ably to inculcate some such feeling in their scholars. I believe that a sense of admiration for the handicraft of others leads to emulation of the right kind, and a fine example in stone or woodwork may prove of great educational value to our budding craftsmen.

Another point on which I should like to touch is the finishing of the walls in class-rooms, &c. With all deference to sanitary and hygienic opinion, I feel I must protest very strongly against the use of glazed surfaces in schools and class-rooms. Perfect as glazed tiles are in every way when used in legitimate positions for lining lavatories, cloak-rooms, &c., they are inappropriate and unsightly as wall decoration for living rooms. My own experience in a certain room lined with faïence has been that of discomfort and irritation. Being, as you will allow, something of an expert where domestic architecture is concerned, I was able to trace the cause of my discomfort to the glaze of faïence. Surely children, without knowing whence the depressing influence arose, might be quite as much affected by it. Too much stress cannot be laid upon the importance of having warm and pleasant colouring upon the walls; the cold and drab colours which are so much used should be avoided. In London and large towns there is too much that is dismal and smoke-defiled outside, and the interiors should be cheerful. Children's eyes wander even when their attention is supposed to be engaged, and they should surely have something pleasant to look upon. Their school-rooms, in fact, ought to be such rooms as we would not mind occupying ourselves. To illustrate my point let me draw attention to the Doss-house in Parker Street, which I saw after it had been occupied for two years. This building is a common lodging-house for the poorest classes, the charge being 5*d.* a night for a bed. The common-room is decorated in a way that might by many be considered inappropriate to the class of persons by whom it is used, but I consider that the money spent on beautifying it has not by any means been thrown away. The whole of one end of the room is occupied by a carefully designed fireplace surmounted by a mural picture. The woodwork of the walls and of the fixed seats is of equal merit with the other work, and is painted in rich and pleasant green. This sort of decoration, without being expensive, is highly effective. When you consider the exceedingly low charge for a bed, and for the use of this room, you will realise that the Doss-house is occupied by the poorest of the poor. The casual occupant may be anyone, from the young hooligan to the most hardened vagrant, and yet after two years' continual use I saw absolutely no sign of rough treatment. The painted woodwork and the walls were all in as good condition as if the room had been dwelt in by educated people. Any signs of wear visible were certainly not caused by malice, or even carelessness. It seems to me that the fact of this respect shown to a good building proves that even the minds of the very poorest may be accessible to feelings of beauty. If adults of the degraded though not criminal classes are sensitive to the influence of beauty, how much more must this be the case with the plastic mind of childhood.

There is nothing more necessary to the well-being of children than good ventilation. Of all the systems at present in use, some of which are certainly excellent, not one can be said to approach perfection. In forthcoming papers you may hear many methods strongly advocated, but I venture to assert that, whatever may be the virtues of such systems, all will leave something to be desired. Architects agree that open fireplaces and open windows are essential supplements to any other kind of ventilation. All who have to do with children know that they thrive best in the open air. Doctors insist on open air for anæmia and chest diseases and for minimising the risk of any sort of infection, and no system of ventilation has yet been discovered to supersede the open-air treatment for consumptives. If prevention is better than cure it behoves us to see that the children of the nation are taught as much as possible in fresh air. As a matter of example, it is desirable that children see that frequent changing of the atmosphere is insisted on in the class-room. No patent system of ventilation will teach them the valuable lesson that they may learn by seeing the importance of having the windows open. As well teach them to cook by electricity, and then let them go back to their own cheap stoves, as expect them to learn the rudimentary hygienic truth that fresh air is essential in a class-room where the windows are all kept shut.

Lighting and Ventilation of Class-rooms.

Sir Aston Webb, R.A., opened the set discussion on this subject at the International Congress on School Hygiene, and delivered the following address:—

I am afraid there is nothing new that can be written on this subject, and I make no claim to any originality in these remarks, merely recording my own experience and what I believe to be the present practice in England. The reason, I presume, that led to this subject being selected for discussion at this Congress is the importance of the class-room as that section of the school building in which the scholastic portion of the teaching is carried on. Here the scholars spend practically all their school hours, and here their mental powers are put to the greatest strain, so that it is desirable that everything possible should be done to place them under the best physical conditions. The size of class-rooms is obviously closely related to the subject of lighting and is necessarily regulated by the size of the classes. These vary from the fifty or sixty scholars or more allowed in a public elementary school to the fifteen to thirty in a secondary school. The size is also regulated by the seating arrangements adopted, single seats taking more space than dual, the width of gangways and master's platform being also factors in the case. The purpose to which a class-room is put will also necessarily affect its size, but I am assuming that the class-rooms at present under discussion are the ordinary ones in which general subjects are taken.

The Board of Education lay down an average of not less than 10 square feet of floor space for each scholar in public elementary schools, and in this country this is generally adhered to; while in secondary schools, where single desks are used, a floor area of from 17 to 18 square feet is required, though, under certain circumstances, a minimum allowance of 16 square feet will now be accepted by the Board of Education. Given therefore the number of scholars to be provided, the above requirements fix the floor area of the class-room; but there still remains the comparative length, breadth, and height to be determined, matters on which the effective lighting and ventilation must largely depend. The breadth and length are, to some extent, governed by the type of seat employed, but the nearer a room approaches a square the better, with the limitation that a room can hardly be satisfactorily lighted if more than 24 feet wide, while 22 feet is better.

We will assume that the room is lit, as it should be, from one side only, which at once limits the depth from 20 to 24 feet; the length will then depend upon the number to be seated. The height of the room is also an important factor in the lighting, as the deeper the room the higher it should be, if the seats furthest from the window are to be properly lighted. For the purposes of acoustics and ventilation 12 feet is generally a sufficient height, though, if a large number are to be accommodated, 13 to 14 feet in height may be necessary. These regulations work out for a class-room in a secondary school for twenty-five scholars at 23 feet 6 inches by 19 feet by 12 feet high. Having settled the size of the class-room, the question of lighting has to be considered more in detail. It seems hardly necessary to mention that it should be lighted from the left hand of the scholar only. The size of glass area to be provided is more difficult to lay down. This will be affected by two considerations—the aspect and the situation. To take the latter first, it is obvious that a town school in a crowded part would not obtain so much light from a window of a given area with buildings opposite as a building situated in the open country with an unobstructed prospect. The same applies in some degree to the aspect, windows quite satisfactory for a northern aspect being unsuitable for a southern one. Class-rooms should be so placed that they have sun in them during part of the day, but not always; north, west, and south-west, if unprotected, should be avoided. The Board of Education lay down one-fifth as the approximate area of window glass to the floor area to light a class-room satisfactorily. In very confined sites, however, one quarter is sometimes found necessary, and in open and exposed sites one-sixth will sometimes suffice. Anything beyond the amount of glass actually necessary to give a satisfactory light is undesirable, as it tends to make the room cold in winter and hot in summer, and adds considerably to the difficulty of the effective treatment of the room, both externally and internally. The glass line should not be more than 4 feet above the floor, with the heads of the windows carried up as near the ceiling as possible.

The windows should be so arranged in the wall that all the seats are equally well lighted. This is apt to leave the master's desk somewhat under-lighted, and in order to rectify this Mr. Bell and I provided in the class-rooms at Christ's Hospital a small window to light the master's desk, kept low down so that he can also see out of it, and I believe this has been appreciated. Under no circumstances should there be windows facing the scholars, and windows in the opposite wall facing the master are almost equally objectionable. Mullions, transoms, and window bars are, in my opinion, unobjectionable if the glass area is calculated independently of them. Plain sheet or plate-glass is the best for glazing, and the view of the sky should not be shut out from the scholars. Glazed brick or tiled walls, except as dados, are not suitable for class-rooms of the character we are considering; the reflected light is trying to the eyes, and being non-porous they are not considered hygienic for crowded rooms. A white plaster ceiling is the best, with light green or grey walls according to aspect, the woodwork painted white or, better, left its natural colour. A glare in a class-room is to be as carefully avoided as gloom. The artificial light of class-rooms, perhaps, hardly comes under consideration to-day, but is of equal importance when much evening work is done. Carefully regulated incandescent electric lighting is the best, and greatly simplifies ventilation. Gas is better avoided. Perhaps the best illuminant is composed of inverted arc lights with the room lit by reflection from the ceiling, but it is extravagant in current. Single incandescent lamps equally distributed over the ceiling give a pleasant and well-diffused light. Groups of lamps in electroliers should be avoided in class-rooms. One eight-candle lamp, if not hung too high, should light sufficiently 24 feet super. of floor area.

For the ventilation of class-rooms it is more difficult to lay down any definite rules. The problem may be simply stated as follows:—

The time required to contaminate the air in a class-room of an elementary school of the capacity required per scholar—*i.e.* 10 feet per scholar—is eight minutes, while for that of a secondary school it would be a quarter of an hour. The temperature of the room, according to the rules of the Board of Education, has to be kept at from 56 degrees to 60 degrees Fahr. The problem, therefore, is how to change the air of a class-room from four to eight times an hour, and, at the same time, to avoid draughts and keep the temperature at from 56 to 60 degrees. In discussing ventilation it is not possible to exclude altogether the question of heating. This can be done by open fireplaces, hot water, or steam and warm air. In one set of competition conditions sent to me I was surprised to find a condition, drawn up by an eminent architect, stating that the top of the fireplace openings should be 4 feet 6 inches high above the floor. I subsequently learned that this was provided on the strength of an instance where it appears such openings were provided, and it was noticed the boys did not progress so well after they had grown above this height, the idea being that the air in the room was better at the lower level through the ventilation of the fireplace. Whether this was a fact I cannot say, but the regulation was not insisted upon when the building came to be erected.

Still there is, I think, undoubtedly in England a strong preference for the open fireplace and the open window, and no doubt there is much to be said for them, especially in small schools; in larger ones it is impracticable. At the same time, I am strongly of opinion that an elaborate system of heating and ventilation such as may be very necessary in such buildings as law courts or hospitals is not necessary in a school for healthy boys and girls. The open fireplace not only provides heat, but also a means of ventilation, and should be placed in the angle on the inner wall near the door, not on the window side, which is an outside wall, and which in such a position must place the unhappy master in a draught between the door and the fireplace. An extract can be obtained by another flue in the chimney-stack, and fresh air may be admitted at the back of the grate and from the corridor. By this means, however, it is impossible to insure with any certainty a regular change of air in the class-room or an even temperature. All extracts which are worked by what are called natural causes are, in my opinion, unreliable, and under certain variable conditions of temperature or wind pressure work uncertainly and sometimes even in directly opposite directions to that intended. To obtain results unaffected by these variations, mechanical means must be employed in the shape of rotary fans or other contrivances to move the air by either extraction or propulsion. If extraction is adopted, probably the best plan is hot-water radiators under the windows fitted with bafflers, behind which the fresh air admitted from

outside is warmed by passing over the radiators and the foul air is mechanically extracted at the ceiling level in the wall opposite. By this means, and with regulators on the inlets and outlets, the system can be sufficiently regulated, but it is as well also to supply an open fireplace, though the mechanical extract may interfere with its draught at times. The size of both the inlet and outlet depends upon the power of the fan employed. The alternative is the propulsion of warm air into the room by a fan, the air being admitted into the room about two feet below the ceiling, the outlet being at the floor level into the corridor immediately below the inlet over. The advantages of this system are the more equal distribution of the heat throughout the room, the absence of all heating apparatus, such as radiators, in the room, the avoidance of draught, the air in the room being under slight pressure, and the ease with which the apparatus can be used for ventilation purposes in summer time. The system requires to be planned with the building, and cannot, therefore, well be applied to old buildings. Each system, however, has its advantages, according to the size and special circumstances of the building; and with mechanical means now so readily at our disposal, there should be no difficulty in providing either the temperature or change of air that our medical advisers may decide from time to time to be necessary or advisable, for, after all, we must look to the medical profession to lay down the hygienic requirements of the children to be accommodated in these rooms, which it is our humbler but equally necessary part to see carried out as effectually and economically as possible.

REVIEWS.

GARDEN MAKING.

The Art and Craft of Garden Making. By Thomas H. Mawson. Third edition, roy. 4o. price 35s. [London: Batsford.]

It is certainly a gratifying indication of the progress in England, during the past few years, of the art and craft of garden making, that a third edition of this, the most important text-book on the subject that has yet appeared, should so soon have been called for. Those of us who have had the pleasure of seeing in execution some of the garden schemes that Mr. Mawson illustrates in this new edition will peruse the book with additional pleasure. The store of information it contains is very great, and cannot fail to be of considerable service to any architect whose practice lies in domestic work, for he will find many valuable suggestions for the treatment of house and garden as one whole design, and practical details for the formation of flower-gardens, of terraces, courts, and lawns, the treatment of water, and the construction of garden buildings. As to the choice of site Mr. Mawson aptly quotes the words of J. D. Sedding, who tersely summed up much that in times past has been the cause of controversy between the rival schools of formalists and landscapists. "The gardener's first duty in laying out the grounds is to study the site, its aspect, character, soil, contour, sectional lines, trees, &c. Common sense, economy, Nature, Art, alike dictate this. There is an individual character in every plot of land as to every human face, and that man is unwise who, to suit preferences for any given style of garden, or with a view of copying a design from another place, will ignore the characteristics of the site at his disposal." To realise the folly of introducing the garden design of a foreign country, it is only necessary to visit some of the great schemes carried out in the middle of last century in England, so-called Italian gardens, which, whilst they may be replicas in matters of detail, fall far short of the spirit and sense of fitness that made the gardens of Italy justly famous.

With regard to terracing, Mr. Mawson has certainly struck the right note in advising that terraces should not be considered merely as one long promenade, but rather as a series of gardens, each division having its own particular interest, the whole arranged in connection with the entertaining apartments of the house and forming a series of changes. This it is that gives so much more interest to the hillside garden than to one designed wholly on the flat.

As for summer-houses Mr. Mawson does not tell us much: the few which he illustrates exhibit a homely solidity that was always the characteristic of the best English garden architects until the rustic woodwork artist appeared on the scene. One can hardly help regretting that a more extensive use of treillage should not be made in this country. It is a cheap and most effective garden ornament and very suitable for positions where protection from wind is desirable. Moreover, in these days of short leases of property, it is often important to gain effect in a brief space of time. In this case there is no adjunct offering more possibility than treillage, and we have only to examine any of the old German or Dutch and above all French garden books to realise to what an extensive use treillage was put in the design of town and country houses of the seventeenth and eighteenth centuries.

Though England led the fashion in garden design, to its detriment, during the latter part of the eighteenth century, and the cult of the *Jardin Anglais* penetrated to every country of Europe, destroying hundreds of charming schemes from Italy to Sweden, we may be proud that she has made amends during the last quarter of a century, and has been the forerunner in the revival of the best traditions of garden design. The example has been closely followed by America, and signs are not wanting that it will soon be followed upon the Continent. We owe much to Mr. Mawson for the present work, one which by helping to educate the public cannot fail to be of great assistance to the domestic architecture of this country.

H. Inigo Triggs.

9, Conduit Street, London, W., 31st August 1907.

CHRONICLE.

Bethnal Green Municipal Buildings Competition.

The action of the President in declining to nominate an Assessor in the above competition unless certain objectionable clauses in the conditions were amended has had a satisfactory result. The grounds of objection were set out in the correspondence published in the last number of the Journal, p. 626. Some further correspondence has since taken place, and the Borough Council having modified clauses 4, 7, and 10 in the direction suggested by the President, the competition is now on a satisfactory footing, and the President has nominated Mr. Henry T. Hare as Assessor. Immediate intimation that the conditions had been amended was conveyed to the profession in a note from the Institute published in the professional journals.

Acton Council Offices Competition.

The Board of Professional Defence have had under their consideration the case of Mr. W. G. Hunt, architect, who had been instructed by the Acton Borough Council to prepare designs for their proposed new buildings to cost about £35,000, and as a result of their investigations the following correspondence has taken place with the Clerk to the Acton Borough Council:—

Royal Institute of British Architects,
9 Conduit Street, W., 12th August 1907.

The Clerk, Acton Borough Council,—

Dear Sir,—It has been brought to the notice of the Board of Professional Defence of the Royal Institute of British Architects that Mr. W. G. Hunt, of Vicarage Gate, W., having been instructed by resolution of your Council to prepare plans for municipal buildings at a cost of £35,000, your Council have refused payment for such services duly rendered.

If the facts as above stated are correct, my Board will feel it their duty to take immediate steps to prevent members of the R.I.B.A. from taking part in the competition which your Council are now instituting for such buildings.

I shall be obliged therefore if you will kindly send me any observations you may have to make not later than Monday, the 19th inst.—I am, dear Sir, yours faithfully,

Edmund Wimperis,
Hon. Secretary, Board of Professional Defence.

The Urban District Council of Acton,
242 High Street, Acton, 15th August 1907.

The Hon. Secretary, Board of Professional Defence, R.I.B.A.,—

Sir,—In reply to your letter of the 12th inst. the Chairman of the Acton Council desires me to say that the Council have never treated Mr. Hunt with other than absolute fairness and with due regard to their obligations towards him and to the ratepayers. As Mr. Hunt has chosen to challenge their action by issuing a writ against the Council it is clear that a precise answer to your inquiry is precluded thereby. This, however, is common ground:—

Mr. Hunt prepared designs, &c., for a Town Hall and Municipal Buildings for the Council without obtaining a contract under seal. The Council paid him £1,500 for such work, and were surcharged by the Local Government Board, with a strong intimation on remitting such surcharge a few months later that there must be no repetition of the occurrence. Subsequently the contract was sealed, and a further £900 was paid him *ex post facto* for the abandoned scheme which the Local Government Board has refused to sanction.

It is contended by Mr. Hunt that the Council requested him to prepare further designs by a contract also not under seal, and for that he now sues them. But it is also the fact that, so far from being warned by the previous attitude of the Local Government Board, he neglected the advice of the Clerk to the Council to have the alleged new contract sealed, and the reasons he may have had for so abstaining may be the subject of further consideration.

The Local Government Board Auditor, who has just completed the audit, has not surcharged the £900 paid to Mr. Hunt after the previous contract was sealed, but informed the Chairman of the Finance Committee and the objecting ratepayer that he had grave doubts whether he ought not to have done so.

If the Council paid any sum to Mr. Hunt under any unsealed contract in the face of these facts and the serious warning of the Local Government Board it would necessarily be surcharged with small likelihood of its remission.

This is but the outline of the matter which will be further considered by the Council at their next meeting on Tuesday next, when a further communication will be made to you.

The Chairman wishes further to say that so much has been explained to you from motives of

courtesy, but the Council will not and cannot recognise the right of any outside body to interfere with what they believe to be their just and impartial actions.—I am, yours faithfully,

WM. HODSON,
Clerk to the Council.

9 *Conduit Street, W., 21st August* 1907.

The Clerk, Acton Borough Council,—

DEAR SIR,—In reply to your letter of the 15th instant, which was considered by my Board at their meeting yesterday, I beg to say that we do not propose to interfere with any action your Council may think well to take, but only to regulate the conduct of our members and to protect them from injustice.

Architects constantly have to prepare drawings prior to, or without, a sealed contract, and in doing so they have to rely upon the good faith of their employers.

We hope to receive a satisfactory letter from your Council as the result of their meeting last night.—I am, dear Sir, yours faithfully,

EDMUND WIMPERIS,
Hon. Secretary, Board of Professional Defence.

Urban District Council of Acton, 22 *Aug.* 1907.

The Hon. Secretary, Board of Professional Defence, R.I.B.A.,—

DEAR SIR,—I am in receipt of your letter of yesterday's date, and would state that your communication of the 12th instant, together with my reply of the 15th, were submitted to the Council at their meeting on Tuesday evening last, and in accordance with their directions I forward herewith extracts from the Minutes of the Proceedings of the Council and Committees in regard to the new scheme for Council Offices.*

The copies of the Minutes relating to the old scheme, which was abandoned, and under which Mr. W. G. Hunt was paid £2,400, are not forwarded unless you should express a desire to see them, when no doubt the Council would comply with such a request. As a writ has been issued by Mr. Hunt against the Council, the Chairman wishes me to say that in his opinion it would be improper to discuss the matter further; but the circumstances of the case are such that he has no doubt if the matter is further gone into the good faith of the Acton Council will be clearly manifested.

Messrs. Hemsley & Co., of 13A Old Burlington Street, W., are the Council's solicitors, and will at their discretion answer any questions which they may feel justified in doing.—I am, yours faithfully,

WM. HODSON,
Clerk to the Council.

* The extracts which accompanied this letter consist of between thirty and forty foolscap folios, mostly printed matter. The material passages are set out in the Board's reply of the 26th inst. [*q.v.*].

9 *Conduit Street, W., 26th August* 1907.

The Clerk, Acton Borough Council,—

DEAR SIR,—I beg to acknowledge receipt of your letter of the 22nd inst., inclosing extracts from the Minutes of the Proceedings of the Council and Committees in regard to the proposed Council Offices, and thank you for your courtesy.

The said Minutes have been carefully perused, and the following extracts set forth the essential points:—

On the 17th July 1906 Resolution of the Council No. 789: "That the architect be instructed to prepare working drawings and specifications of the proposed Municipal Buildings."

On the 20th November 1906 Resolution of Council No. 1469: "That paragraphs 3 and 4 of the Minutes of the Committee be approved subject to satisfactory terms being arranged with the architect in connection with the preparation of the designs, &c., for the proposed Municipal Offices."

Paragraphs 3 and 4 were that the working drawings be approved, and the architect be instructed to prepare the necessary specification.

On the 19th February 1907 Resolution of Council 2181: "That Mr. Hunt, the architect, be offered a remuneration or commission of 3½ per cent. for the preparation of plans, acceptance of tenders, and supervision of the erection of new Council Offices, and all other usual work of an architect of and incidental to the preparation of plans, drawings, and specification, acceptance of tenders and supervision of the work, subject to his entering into a contract to the satisfaction of the Council for the performance of the said work and the acceptance of the remuneration or commission of 3½ per cent." *

On the 19th March 1907 the Agreement with Mr. Hunt was submitted to the Council for sealing. Resolution No. 2456: "That the sealing of the Agreement with Mr. W. G. Hunt, architect, be adjourned to the next meeting of the Council."

On the 26th April 1907 Resolution No. 101: "That the sealing of the Agreement with Mr. W. G. Hunt architect, be further postponed to a Special Meeting of the Council, to be convened for the purpose of considering the question of the erection of new Council Offices, on Tuesday, the 30th April 1907, at 8 p.m."

On the 30th April 1907 Resolution No. 111: "That a letter be forwarded to Mr. W. G. Hunt, architect, informing him that the Council have abandoned all thought of approving the plans for the new Council Offices as submitted by him, and that the matter has been referred to the surveyor to

* It should be mentioned that Mr. Hunt had previously been instructed to and had prepared a design and working drawings for a larger scheme of the Council to cost £80,000. The scheme was abandoned and the Council paid Mr. Hunt's professional charges. This explains why the remuneration for the £35,000 scheme was agreed at 3½ per cent.

prepare sketch plans and an estimate of the cost of erecting Council Offices, to provide the accommodation required by the Council."

On the 30th May 1907 Resolution No. 371: "That Mr. W. G. Hunt be informed that the Council do not at present see their way to make any payment to him or to receive any account for the scheme referred to (in Mr. Hunt's letter, dated 8th May 1907), but if use is made of his plans he will hear further from the Council upon the matter."

It therefore appears that the facts stated in my previous letter to you of the 12th instant are confirmed by your Council's Minutes. The only course, therefore, for us to take is to give notice to the members of the Royal Institute of British Architects to abstain from taking part in the proposed competition.—I am, dear Sir, yours faithfully,

EDMUND WIMPERIS,
Hon. Secretary, Board of Professional Defence.

On the 21st August the following letter was addressed by the Board of Professional Defence to the editors of the building papers, and appeared in their respective issues last week:—

21st August 1907.

SIR, The Board of Professional Defence of the Royal Institute of British Architects, having now under consideration the differences between this Council and their present architect, requests members of the R.I.B.A. who propose to compete for this building to stay their hands pending further notice, which will be advertised in this column next week.—I am, Sir, yours faithfully,

EDMUND WIMPERIS,
Hon. Secretary, Board of Professional Defence.

On the 28th August the Competitions Committee sent the following communication to the professional press for insertion in this week's papers:—

"ACTON COUNCIL OFFICES COMPETITION.

"The Competitions Committee of the Royal Institute of British Architects have, upon representations made to them by the Board of Professional Defence, decided that this competition is one in which members of this Institute must not take part."

Eighth International Congress of Architects, Vienna, 1908: International Architectural Exhibition.

The General Regulations are to hand from Vienna for the International Architectural Exhibition proposed to be held in Vienna in connection with the International Congress next year. The Exhibition will be open from the 18th May to the 14th June, and will be held in the galleries of the I.R. Gartenbaugesellschaft, 12 Parkring, Vienna I.

The exhibition will be of a purely artistic nature, and is to consist only of works of living artists produced within the last decade. The exhibits are to comprise plans, drawings, and models relating to architecture, as well as paintings, sculptures, and works of the allied arts in so far as they are connected with architecture. Particular attention is required to be directed in the plans to typical productions. Ground plans should be only to a small scale and added merely where explanation is absolutely necessary. Photographs are excluded. The exhibits will also comprise all kinds of decoration of buildings produced according to designs, as well as works of the allied arts, singly, and— as far as space permits—in groups as interiors.

The exhibition will be arranged according to individual countries, to each of which a section will be assigned by the organising committee. The patronage committee of each country will be required to draw up their own special regulations for the nomination of judges and for the arrangement of their own exhibition.

The organising committee reserve to themselves the right of borrowing eminent works of art from the authors for decorating a reception room, and they will also be responsible for the decoration of the walls and ceilings of all the rooms. No rent for space will be required from exhibitors. Each patronage committee will have to bear the expense and risk of transport of their exhibits, as well as their arrangement, moving, and packing. The organising committee will insure the exhibits against fire during the exhibition.

Exhibits must arrive not later than the 4th May 1908, addressed "Baukunstausstellung, Wien I., Gartenbaugesellschaft." The names of the designers will be catalogued as exhibitors; and if specially desired the firms who have carried out the work may be added.

The chief executive officers of the Congress are MM. Otto Wagner, *President*; Karl Mayreder, *Chairman of Exhibition Committee*; Franz Freiherr von Krauss, *Secretary*.

Town and Dwellings Improvement.

The International Housing Conference, which met at the beginning of the month in Caxton Hall, Westminster, held a series of very successful sittings. Over four hundred delegates were present, foreign Governments being strongly represented. Mr. John Burns, President of the Local Government Board, welcomed the delegates on behalf of the Prime Minister and the Government and briefly addressed them. In England and Wales, he said, there were now half a million empty houses, London having fifty thousand. That was due to the improved taste of the people which housing reformers had developed. Modern suburbia would no longer live in basement houses. Thirteen thousand families left the inner ring for the outer ring of London per annum. The greatest boon to London had been the County Council, with its parks, its housing, and its cheap, popular, rapid tramway system. Mr. Burns said he would like a city with the gaiety of Paris, the alignment of Germany, the comfort of England, the picturesqueness of Venice, and the cleanliness of Amsterdam.

Mr. Alderman William Thompson, in the course of his Presidential Address, said they had met to fight a common enemy. They waged a crusade against dirt, degradation, disease, and death; against darkness, foul air, and foul water, with conditions of life which often made morality a miracle and common decency impossible, although these by no means exhausted the consequences of the body-blighting, soul-destroying effects of overcrowding and the slums. He believed they were all in entire agreement as to the need of a strong central body in every State to co-ordinate public and private enterprise more effectively than at present, to advise local authorities as to the best method of dealing with housing improvements, as well as to stimulate them in cases of neglect, and in the last resource to subsidise them if they failed to carry out the necessary work. They were all agreed that the new housing accommodation was insufficient in quantity, inferior in quality, or in many vital respects unsuitable in character; the place that should be occupied by cottages, for which there was a great demand, being filled by a kind of spurious villa which was not really wanted. It was therefore necessary to encourage some persons or authorities to increase, vary, and improve the supply of new and suitable dwellings. Let them hope in the near future to remodel their towns and substitute horizontal expansion with cottages and gardens served by electric tramways, for vertical extension with badly ventilated or comparatively sunless block dwellings. In the meantime a substantial reduction of cost could be secured by simplification of building by-laws and production on a large scale, based upon a system of standardisation of the parts of the house, and adoption of new materials and economical designs. It was only recently that a concentration of effort had been devoted amongst architects to produce a really cheap cottage which shall be a desirable place of residence, and it was here that the Cottage Exhibitions did such useful work.

Dr. J. Stübben, of Berlin [*Hon. Corr.M.*], discussed town planning and building by-laws. He said that in very many Continental and English towns there were certain old districts to which air, light, and traffic had very imperfect access, and in which the houses were filled with bad, unwholesome dwellings. But in many new districts in towns also there were complaints of bad housing conditions. In England the chief causes of trouble were the bad state of buildings and yards and the lack of open spaces; in Germany the evil was chiefly due to the crowding together of the urban population in barrack dwellings. Owing to the inadequate separation of one dwelling from another, to the insufficiency of the space they provided, to the defective supply of light and air in many of them, as well as to the neglected condition of the separate dwellings, of the courts, staircases, and passages, as also to their high rents, these barrack dwellings were often regarded as a danger to the health and to the social and economical well-being of the community. It was one of the chief purposes of town plans and building by-laws to prevent the growth of similar conditions on ground which was still uncovered by buildings. In Germany more than elsewhere the State and the towns had given attention to this important purpose. In Germany more than elsewhere the regulation of the housing system was regarded as the concern of the community. Whilst in other countries—*e.g.* France, Belgium, and England—the division of building land near the towns into plots and the choice of the style of building were chiefly left to private interest; in Germany private interest, although by no means disregarded, was distinctly subordinated to the public needs. Considered in relation to the housing question, the town plan—called also town building plan or town extension plan—was essentially a plan for breaking land up into building plots. These plots ought to correspond by their situation, shape, size, and condition with the many and various requirements of future dwellings. Small dwellings for the large number of members of the lower class who had small means, dwellings of medium size for the middle classes, larger and very large houses for the well-to-do and the rich—these and other different kinds of dwellings decided the way in which land was divided. It was an artistic problem of great importance so to construct the town building plan that streets and squares might be of pleasant appearance, and that a beautiful town might be created. After explaining the building by-laws in Germany and the legal powers possessed by towns, he added that both town planning and building by-laws had long been dealt with as matters of science and art in German technical literature. Most towns paid great attention to these subjects. This, it was believed in Germany, was the right course to take. But, on the other hand, the conviction prevailed that modern town building was still only at the beginning of its development, and that especially the provision of dwellings required the use of many other means which must be simultaneously applied.

Miss Sybella Gurney (hon. secretary of the Garden City Tenants, Limited) followed. She said that the present overcrowding of houses to the acre would matter even more if it were to be extended indefinitely; it was important that it should be carefully restricted in all new districts. The limit might be put according to situation at a hundred rooms an acre or less. The space thus saved could be used for gardens or for providing open spaces. The plans should provide on a large scale for open spaces for play and recreation, and for enjoyment of nature. Turning to site-planning, there was one very general and very objectionable development which could be largely affected by it—namely, the present division of town neighbourhoods into villa districts and working men's

quarters. This was one of the most evil developments of latter days, and was bad for every reason, inasmuch as it prevented any feeling of neighbourliness from arising between poor and rich, it relieved the rich from sharing those local burdens which they ought to bear, it was unnatural and ugly. We are apt to think ugliness of little importance, but in reality it is of very great importance, not only in itself, but as an indication of something wrong behind. Only a generation that was spiritually and morally deficient could produce a civilisation as ugly as ours is to-day.

Crosby Hall.

Some statements that have gone the round of the press lately with regard to Crosby Hall have given rise to the impression that the preservation of the building is now assured and that further apprehension for its safety is needless. These statements, it appears, are a little premature. All that can be said is that those who are working to save the Hall have formulated a definite scheme —the only one, in fact, that presents any prospect of success—and that they are hopeful of carrying it through. If it is true that a large sum will have to be raised by public subscription, it is to be hoped that a subscription list will be opened without delay, for there can be little doubt that an appeal to the public in such a cause would be at once and liberally responded to.

The very practical proposal has been made that the minor City companies which have no hall of their own should combine and make Crosby Hall a centre for their meetings, &c. These companies number forty-two in all, and the amounts expended by them in hiring rooms for their meetings must in the aggregate reach a considerable sum per annum. If the Hall could be devoted to their purposes it would be a fitting use for it, and it is to be hoped that the idea will commend itself to them.

The King has written expressing the hope "that means may be found to preserve this interesting relic of old London," and it is understood that His Majesty is being kept advised of the progress of the negotiations.

The Rubens Ceiling at Whitehall.

The beautiful Rubens ceiling in the Banqueting House, Whitehall, will shortly be on view in its restored condition. For many generations this precious work, which was executed by the great painter to the order of Charles I., has been but imperfectly seen through its coating of London grime. Some months ago the Office of Works undertook its cleaning and restoration, and it is understood that this has been very effectively done. The original colours have returned with unexpected brilliancy, and the complicated work of repairing the painting itself has been most successful.

Colonial Appointment for an Architect.

The Government of Jamaica invite applications for the post of surveyor and architectural officer, at a commencing salary of £600, before 10th September. Candidates must be thoroughly qualified as building surveyors and, if possible, designing architects, and must have worked under some important municipal body.

The Alexander Thomson Travelling Studentship.

This Studentship, value £60, which is competed for every third year, is open to architectural students between the ages of nineteen and twenty-eight years, residing in the United Kingdom. The Council of the Glasgow Institute of Architects are the Trustees. The Studentship was founded for the furtherance of the study of ancient classic architecture as practised prior to the commencement of the third century A.D., and with special reference to the principles illustrated in the works of the late Alexander Thomson. The subjects set for the next competition are a City Church, capable of accommodating in the area 1,000 sitters; and a Clergyman's House, with Session-house or Clergy-room. Competitors must also submit Three Studies of the Classic Orders; a Drawing from the round; and two sheets of Architectural Studies. The drawings must be delivered at the address of the Secretary of the Trust, Mr. C. J. Maclean, 115 St. Vincent Street, Glasgow, before 4 p.m., 28th December 1908. The successful competitor will be required within two years of the award to go on a sketching tour for three months to pursue his architectural studies. A prize of £20 is offered for the second best set of drawings should the number of competitors and the quality of the work warrant it. Programmes and all particulars may be had from the Secretary of the Trust as above.

Reinforced Concrete in Admiralty Buildings.

Replying to a question in the House of Commons last week, the Secretary to the Admiralty stated that "Reinforced concrete is used by the Admiralty in the construction of floors, jetties, &c. Though the prime cost is higher than that of timber, the small cost of maintenance renders it more economical, and there is no reason to anticipate that it will not continue to be satisfactory. It was first used by the Admiralty in 1904."

Memorial to Henry Allen Prothero [*F.*].

A committee is being formed for the purpose of raising funds and otherwise providing for the erection of a memorial to the late Mr. H. A. Prothero in the chapel of Cheltenham College. Mr. Prothero was educated at Cheltenham College, and the beautiful chapel of which the College is so proud was probably his most considerable work.

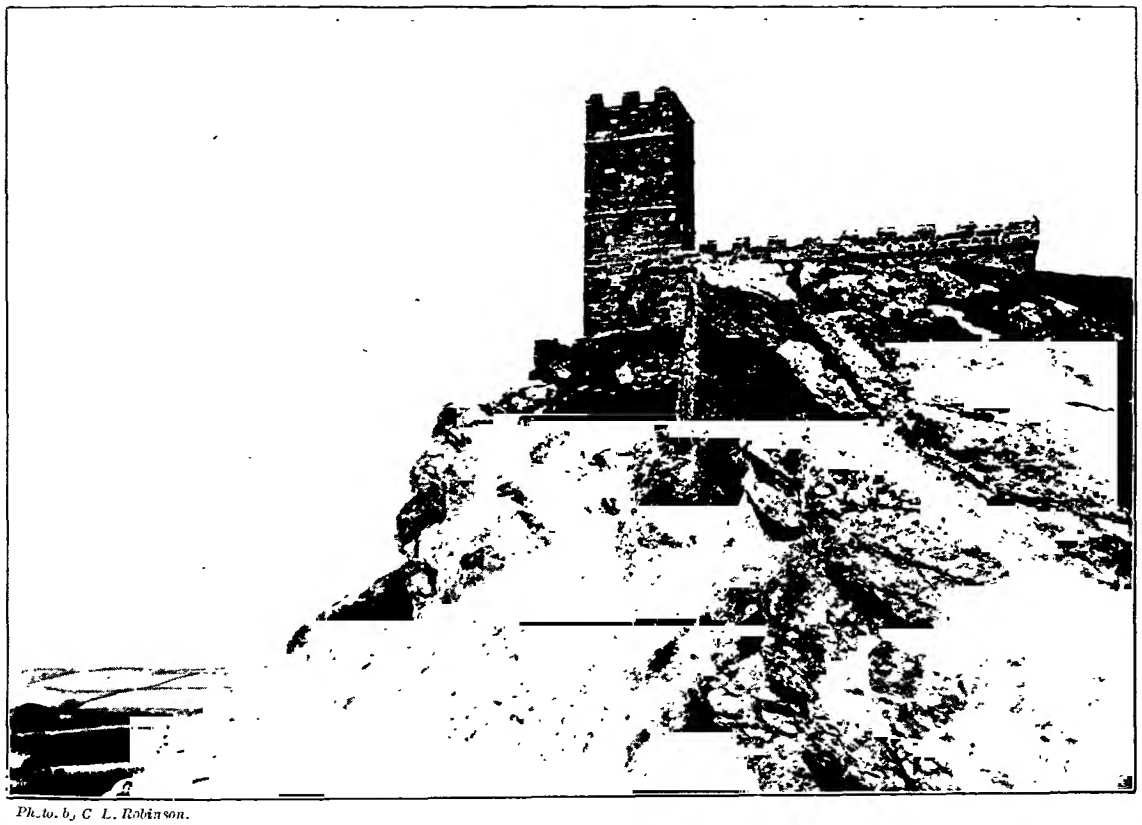


Photo. by C. L. Robinson.

FIG. 1.—BRENTOR CHURCH, DEVONSHIRE.

DEVONSHIRE CHURCHES.

By HARBOTTLE REED, President of the Devon and Exeter Architectural Society.

Read before the Northern Architectural Association at Newcastle-on-Tyne, 16th January 1907.

DEVONSHIRE cannot boast of numerous early churches, or even with certainty show one of pre-Conquest date; in this respect it can in no way vie with Northumberland. Of its British churches we have only the dedications, although some survived the Saxon incursion, and in Exeter the Celt and the Teuton lived peaceably side by side, the British quarter of the city having its churches of St. Kerrian, St. Petrock, and St. Pancras; but it would be difficult to pronounce any part of the present structures Celtic.

Of Saxon work scarcely a vestige exists, and while the more solid stone has vanished, it is left to a manuscript to represent that early period, one of the greatest treasures of Exeter Cathedral being a Saxon book, ascribed to Cynewulf, a bishop of Lindisfarne, about the eighth century. We have nothing to correlate with Jarrow, Monkwearmouth, St. Wilfrid's crypt at Hexham, Bywell, or Ovingham. We have no complete Norman churches, and even the thirteenth and fourteenth centuries are only evidenced in portions of structures; but there are scarcely any which are not either wholly or in part of the Perpendicular period, for a wave of church building left few untouched, and in the episcopate of Bishop Lacy (1420–55) it was perhaps at its highest flood; the Cathedral had been practically completed, and the parish priest was becoming a more powerful factor in the religious life of the people. It is more

especially with the work of this period that I propose dealing this evening, in what can only be a very cursory manner, seeing that there are some five hundred and forty parishes in the diocese, and of these there is only time to show a few illustrations of churches most characteristic of the local type, and that rather from a structural than an historical point of view.

Except the Cathedral and collegiate foundations of Ottery and Crediton, there are no churches of imposing dimensions; those of the abbeys of Tavistock and Torre would indeed have been worthy compeers of Hexham and Tynemouth; but Tavistock has almost vanished, and little is left of Torre.

It is not for imposing mass or grandeur that we must look; few, if any, would not seem insignificant if compared with the edifices of East Anglia. Still, it would be difficult to find one without some individual interest, be it quaint irregularity of outline, touch of colour, carved oak, fragment of glass, or sculptured memorial of the men of Devon who in other generations loomed large in the making of English history.

Much of the added charm of scores of the Devonshire churches lies in their setting: some with warm red stone towers and walls nestling among light-green foliage, some with golden tinted stonework backed by dark pines, others with sturdy grey granite, as at Mary Tavy, standing up against rolling moorland or sheltered below some rugged tors; St. Petrock's, at Dartmouth, placed upon the cliffs.

The site frequently stands for much in the history of the locality. For instance, Brentor Church [fig. 1], perched high on the summit (as its name implies) of an extinct volcano, a granite outpost of Dartmoor, is actually in the bounds of an ancient British stone-walled enclosure. With a legendary votive dedication by a storm-tossed seaman as the first land sighted from the Channel, the hill is at times so swept by the wind that it is impossible to face it and breathe; yet there the low, almost fortress-like, church of St. Michael was planted—a most conspicuous object from the moor, and quite an appetising climb for the parishioners. To put a church in such a position to-day would ensure its emptiness.

A little further north-east we have Lydford Church, where it might be expected, close under the shadow of the Saxon castle (or, rather, where it once was, for the present four-square keep is Edwardian). Lydford was a town of very considerable importance when Athelstane was king, though now a mere hamlet; the church included nearly the whole of Dartmoor in this parish, the extremities being about twenty-four miles apart. The granite squat tower and low triple roofs with small windows are of the breezy moorland type.

The local materials differentiate the churches. In some parts a dull brown carboniferous shale affords no readily squared quoins, and the nearest freestone being too remote to be employed for anything but tracery or mouldings, quoins and buttresses are avoided as much as possible.

In many localities the material is a grey limestone, with many-tinted lichen colours, while in others the red conglomerate shows warm against the trees, just as the old walls of Lindisfarne glow against the blue sky on a summer day. Unfortunately this breccia wears badly even when, as usual, the weatherings and tracery are of freestone; it is, however, most picturesque, especially in decay, and associates very kindly with mossy fern and other accretions. This red conglomerate occurs in the centre of Devon. Grey granite is another building stone used on the borders of Dartmoor, and in the Perpendicular period it began to be adopted for tracery, naturally of a simple character on account of the labour involved.

Freestone was generally obtained from the quarries at Beer, which had been worked by the Romans; white in colour and of fine texture, it is easily carved. Yellow oolite from Hamhill, and of the Bath-stone variety, was also used; while in Edwardian days Caen stone was largely in request for wrought work in churches which afterwards adopted granite.

In East Devon flint was pressed into service, but not with much attempt at ornament; and in the locality of Exeter and Crediton a volcanic tufa was employed.

As the Cathedral would require considerable time for its description, I do not purpose to do more than glance at it as the mother church. Although in comparison with many of the English cathedrals it is small, its size prevented it from being used as a model for the country churches, and except at Ottery St. Mary we have no attempts to copy it on a reduced scale. From the Close its exterior is not imposing, but viewed from the outskirts of the city its long roof and sturdy Norman towers crown the eastern side of the hill on which Exeter is built with a suggestion of reposeful strength.

The Bishop's stool was removed from Crediton to Exeter in 1050, but of the Saxon church we have no remains; a large part, however, of its Norman successor, begun in 1112, still stands, notably the twin towers at the east end of the nave and the nave walls. The very unusual position of these towers gives to Exeter a grouping quite its own, not now as its founders intended when the coeval choir was of three bays only (somewhat resembling in position the church of St. Guinebert at Cologne), but the transeptal disposition of the towers preserved a balance without the huge intrusive piers required for a tower or spire at the crossing, and gave us one of the longest uninterrupted stretches of vaulting; and for beauty of groining it has few, if any, equals in this country. From the nave piers the vaulting shafts carry the eye up to the level of the sills of the clerestory windows, and from there the ribs spring evenly and naturally, sweeping upwards to the sculptured bosses at the apex; it is no great height to the ridge rib, but by reducing the triforium to a very low wall arcading the nave arches seem lofty, and this is accentuated by the form of the piers, which show five attached columns on each face and no heavily carved capitals to interrupt the upward tendency. The great west window occupies the whole of the west wall from the level of the pier capitals.

Passing under the organ screen in the choir, facing east, the magnificent oak throne, some fifty-two feet high, immediately arrests the attention: it dates back to the first quarter of the fourteenth century, and is a beautiful piece of work. In the east window early Perpendicular tracery fills the place of the "Decorated" stonework, and still holds the rich coloured glass, the best preserved in the Cathedral.

By far the most delicate piece of stonework is the sedilia in the choir. Despite the loss of the figures it is very beautiful: so light and graceful—it seems too slight for masonry. Tewkesbury Abbey has some slender work very much resembling this. Here the seats are graduated in the usual English fashion, and at the back of each stall is carved a head, eloquent of the day when, led by Edward the Confessor and his queen, Leofric was installed as first Bishop of Exeter.

From the sanctuary steps the whole length of the choir and nave is visible, with the west door in the distance. The screen still stands, despite the wordy battle for its removal to the west end; the compromise in the shape of piercing the arcading is a distinct gain. As we view it, the Cathedral spells "Decorated"—the carved corbels, vaulting, wonderful throne—but hidden in the stalls are the misereres of the militant crusading Bishop Brewer (1224–1244), full of interest.

The west front seems to have reacted upon the smaller churches: it is squat, and yet not without charms of its own. Its Norman west wall still stands cut into for a large west window and buttressed up by the Perpendicular screen. Grandison's Chantry is in the thickness of this screen. Here the recurring problem presents itself—a crumbling stone gradually losing all form of moulding or tracery: must it be allowed to become ultimately shapeless, or shall it be renewed ere its lines are past reproduction?

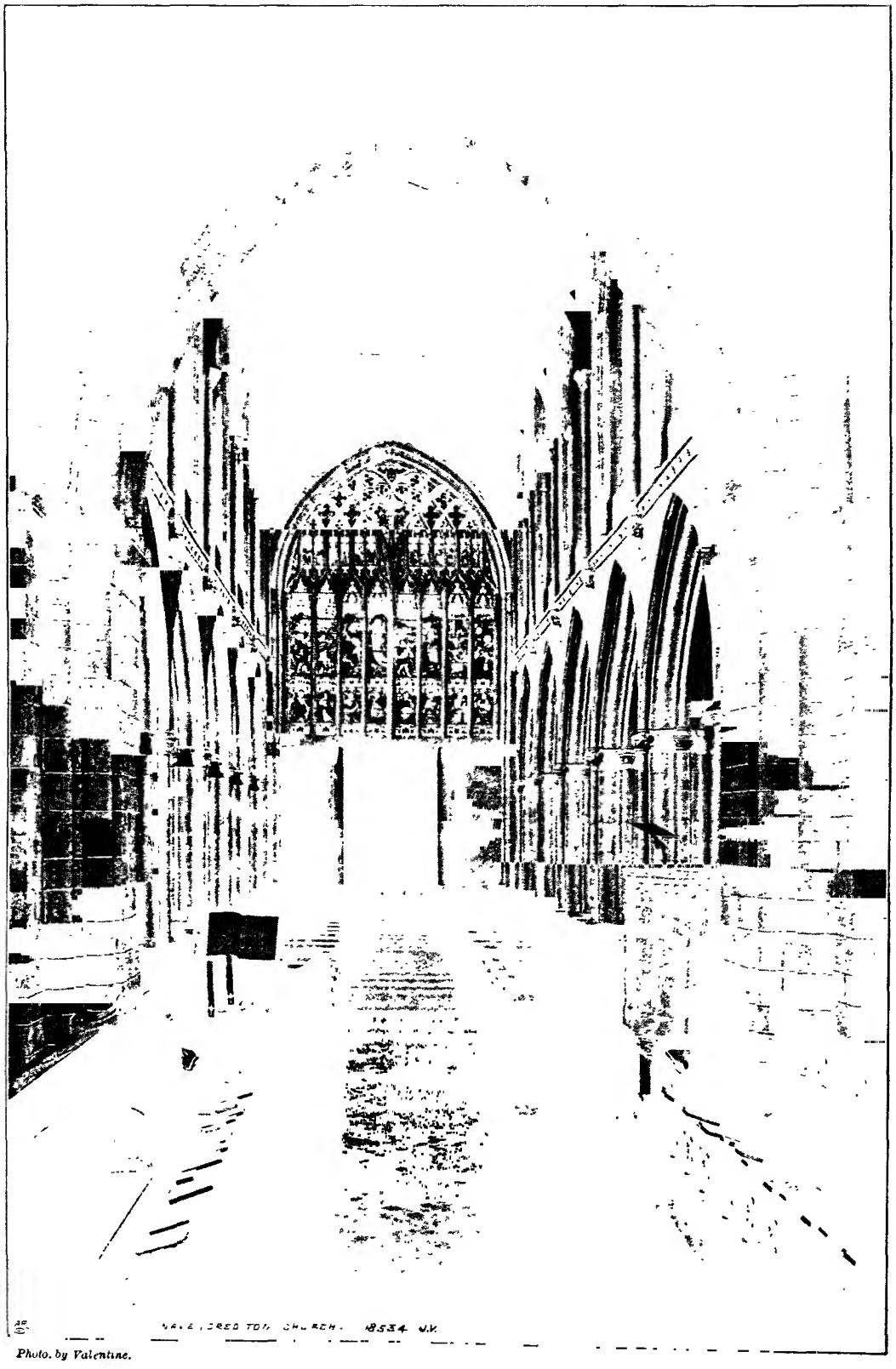


Photo. by Valentine.

FIG. 2.—CREDITON CHURCH: NAVE.

Foremost among the parish churches stand Crediton, Ottery St. Mary, both collegiate; Cullompton, Tiverton, St. Andrew's (Plymouth), Tavistock, Kenton, Paignton, Ashburton.

It was at CREDITON [figs. 2 and 3] that the Bishop's stool was fixed until its removal to Exeter in 1050, and the church seems to have retained in a large measure its dignity, being served by eighteen canons. In 1547 it was vested in twelve governors. A strip of the richest red land in Devon runs through this valley, and the church is worthy of its surroundings. Cruciform in plan, it has nave and choir with aisles, north and south transepts, with tower at the crossing, eastern Lady chapel, south porch and vestries, over the latter being a room known as the Plumbery, where the lead for roof repairs was recast. The nave and choir,

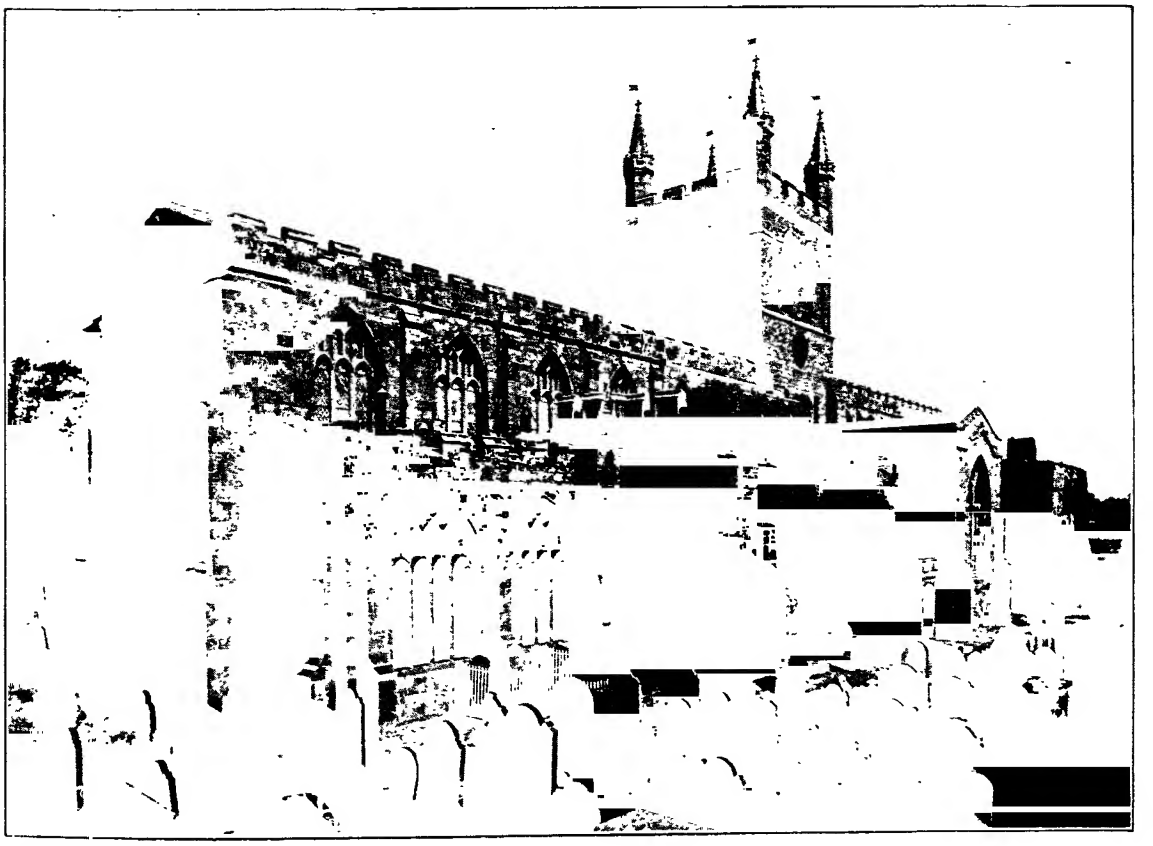


Photo. by Valentine.

FIG. 3.—CREDITON CHURCH.

175 feet long by 50 feet wide, are of the Perpendicular style, of good proportion, with clerestory over; but the heavy lower Norman stage of the tower being allowed to remain, the choristers are obliged to be placed under it, and not in the choir, in order to be effective.

Built with local felspathic trap, one writer says:—"The rich warm colour of the stone is one of the happiest accidents of the church. As in the Cathedral of St. Davids, where the purples and deep greys of the native Cambrian rocks have been largely brought into play, the natural colouring of these Devonshire traps gives a dignity to even indifferent architecture, and renders polychromatic decoration not only unnecessary but almost an impertinence."

Portions of the work are Norman, Early English, Decorated, and Modern, and it will be seen that the remaining Perpendicular work is the greater part. The nave arcade is very

massive for this period, and has a dignified effect. In the choir the wall shafts spring from the pier capitals and add to the apparent height. Of the sedilia sufficient is left to prove it was of great beauty.

A somewhat monotonous effect is produced by the repetition of the same window tracery; even the east and west windows are now, though not originally, identical, and being of eight lights awkward for glass. Recently re-roofed with low-pitched lead roofs the oak ceiling work is a good example of local workmanship.

The porch with parvise over is now a library. Of the Saxon palace on the north side nothing remains but the name.

Ottery St. Mary * is a somewhat unusual instance of a direct imitation of a cathedral on a small scale; and, further, it is an example of a building by men of a later date in the spirit of a past age; although dedicated by Bishop Bronescombe in 1269, a great portion of the church was reconstructed by Bishop Grandison, who, having completed the appointments of the Cathedral, took in hand Ottery St. Mary about 1337, and raised it to the dignity of a collegiate church.

A reference to the plan will show the similarity:—north and south transeptal towers, which apparently, unlike Exeter, always were open as transepts; transepts to choir, eastern Lady chapel; the north tower still has a lead-covered timber spire, such as the north tower of Exeter one time showed. Bishop Bronescombe's work included the choir, and Grandison rebuilt the choir, Lady chapel, and nave, and revaulted the whole church.

A comparison of dimensions shows the width of the Cathedral nave to be 40 feet, Ottery 20 feet; Cathedral aisle 17 feet, Ottery 8 feet 6 inches; Cathedral choir 150 feet long, Ottery 75 feet long; Cathedral Lady chapel 58 feet long, Ottery 28 feet long; Cathedral Lady chapel 26 feet wide, Ottery 18 feet wide.

The length of Ottery nave is much less than half that of the Cathedral, and this half-scale makes the nave, bays, and aisles too narrow, and the church generally loses in effect. In consequence it does not produce a good impression, but, despite this drawback, it is a building replete with interest.

Stretching across the Lady chapel is a minstrels' gallery, of Decorated date, occupying a somewhat uncommon position. The restored stone reredos, of canopy work of the same period, stretches up to the clerestory, and there is a triple sedilia of the same time; the seats are not graduated as at Exeter. There is no east window to the choir. Over the north and south chapels are chambers, that on the north being known as the Chequer, or college treasury.

There are no fewer than nine varieties of vaulting, the most elaborate being that in the Dorset aisle—a fine specimen of fan tracery with five pendentives. This aisle was erected in the first or second decade of the sixteenth century. Over the north porch were two chambers for watching priests, with windows commanding the interior as well as the approaches to the church. The lancet windows with Decorated mouldings are not elsewhere often met with, or such a number of consecration crosses as show on the exterior.

Among many points of interest are the tower gargoyles, of vigorous expression, those on the north being more diabolical; the west window head, with the lancets flattened on one side; the door to the collegiate buildings now gone; the Dorset or north aisle seems out of proportion to the building. In the interior a niche occurs over each arch of the arcade, but the statues are missing.

Cullompton Church [fig. 4], built early in the fifteenth century, is somewhat ornate. In a very prosperous country town, situated in a fertile valley, it was not wholly erected at one

* For Ottery St. Mary see Paper by Mr. Francis Bond on "The Chronology of English Cathedrals," Journal R.I.B.A., 26 Nov. 1898, p. 27.

time. The Lane Chapel, with its beautiful fan vaulting and external sculpture, was founded by John Lane, a wealthy wool merchant, as indicated by the shears and very fine carvings of ships. A wide label gives his name and date 1526.

The tower is a very fine specimen, in many points resembling the Somerset type. Built of rich red stone with yellow freestone dressings, it is 100 feet high to top of battlements and 113 feet to top of pinnacles. The Renaissance spirit is evident in the carvings on the face of the tower, especially in the canopied Crucifixion group. Massive buttresses, continued almost to the battlements, have an effect of strength; and although the walling is vertical, the set-back above each string gives a battering appearance on the whole height. Pierced panelling fills the bell-chamber windows.

Of five bays the Lane aisle or chapel gave great scope for glass, that at the west end being of six lights, and correspondingly larger. A bay of this chapel shows the windows 9 feet wide by 15 feet high, the moulding being a bead and hollow. Details of the carvings include spirited ships with fighting tops, initials and merchants' marks, trade emblems, &c.

The clerestory appears to be an addition to the original, and it is spanned by a panelled wood ceiling, the compartments being elaborately subdivided, each rib being edged with cresting and the intersections covered with carved bosses; a carved and crested cornice is broken by angel corbels at the foot of each rib. The internal walls of this church were covered with frescoes.

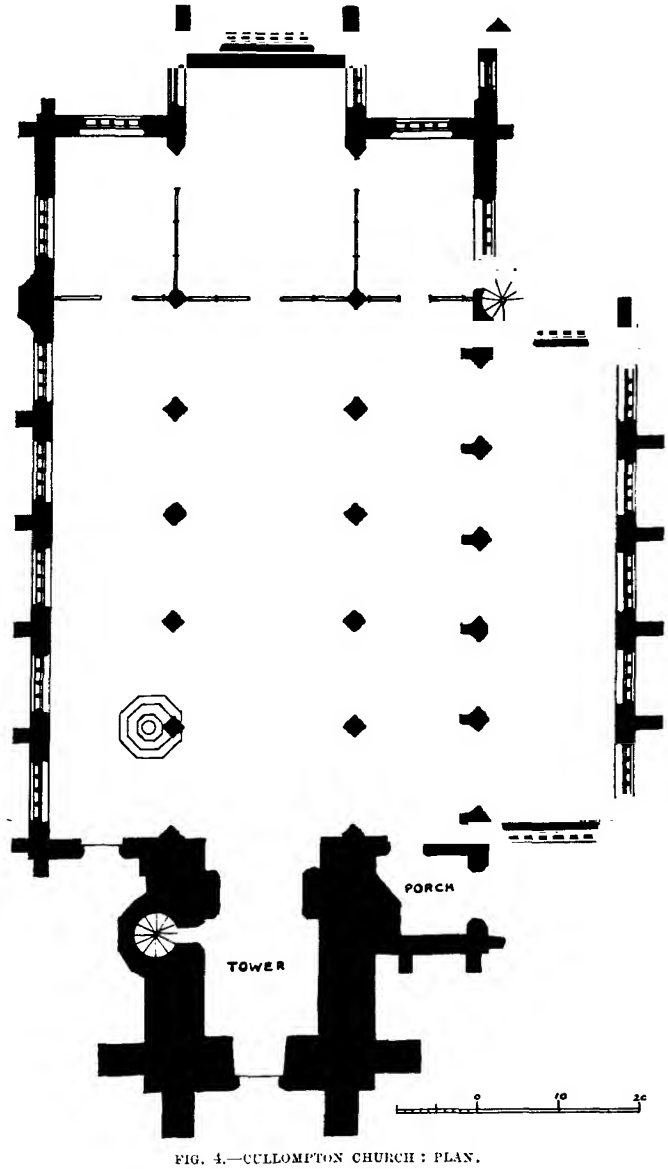


FIG. 4.—CULLOMPTON CHURCH: PLAN.

St. Peter's, Tiverton [fig. 5], is of the three-aisle type, to which a south chapel and porch were added in 1517 by John Greenway, a merchant and member of the Drapers' Company. The vaulting of this chapel is very fine, and the exterior most profusely decorated with carvings of New Testament subjects, merchants' marks trade emblems, arms, and grotesques, the carvings of ships being remarkably good. The churchyard adjoins Tiverton Castle, once the residence of the Courtenays, who have left their mark on the church, the position of which on the river bank reminds one of Durham.

Kenton [figs. 6 and 7], built shortly before 1379, is 118 feet long by 42 feet broad:

triple aisles, continuous roof to nave and choir, battlemented aisles; stairs to rood-loft, fine screen, buttress weathering, and gargoyles. It has a south porch with parvise over, niche over door, very large windows (some fragments of the old glass remain); east window large and sill low. It has been termed by an old writer a "luminous" church, and certainly the area of fenestration is very large. The caps of columns here become merely a band of foliage which projects beyond the mouldings relieved by masks.

PAIGNTON has a stone screen with elaborate canopies to Kirkham Chantry, on the south side. This is another of the red stone churches; the tower buttresses are not continued up

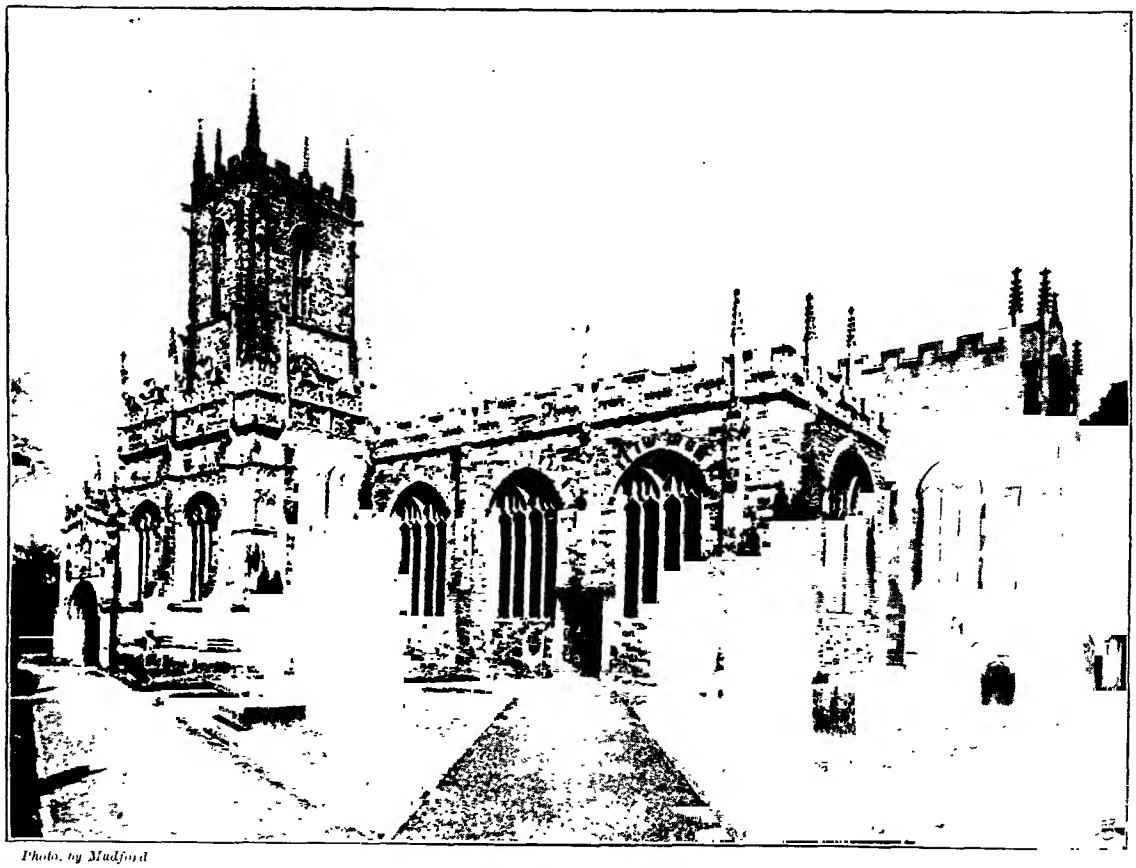


Photo. by Mudford

FIG. 5.—TIVERTON CHURCH.

the last stage. It has a churchyard cross, of which there are numerous examples, but all of very plain design.

At ASHBURTON are transepts to the aisles, and at the east end is an ancient vestry approached through doors on either side of the altar. There are very few old vestries in the diocese. The proximity to the moor is shown by the rather crude window tracery, and the tower is of very simple form.

EXETER contains a disproportionate number of churches compared with its population, but many of them are small. St. Martin's is disused, and the problem presents itself, what can be done with it? Only last year Allhallows Church in Goldsmith Street was demolished; the tradesmen who at one time resided in the parishes now live in the suburbs, and these little

churches are well-nigh forsaken. The west window is a gift of Bishop Lacy, and his arms appear in the glass. It is of better proportions than often seen. There are several ponderous Georgian monuments and sacrarium fittings of that time. Together with the adjoining Elizabethan house it groups picturesquely, but its removal has been suggested.

St. Mary Steps is another old city church, more quaint than beautiful.

St. Mary Arches shows by name that it held an unusual place in the Exeter city churches, which in Norman times probably were without aisles; after the nave arcade the principal interest is in the monuments to eminent citizens, and it has a regalia stand and a very fine piece of embroidery converted into an altar-cloth. Another Exeter church, St. Petrock's, has a pall made up of portions of an embroidered cope or chasuble; at Tedburn St. Mary a few years ago was a rather fine old cope.

St. Olave's is another Exeter church dedicated to St. Olaf shortly before the Norman Conquest: it shows the usual type of local window, and is of interest chiefly from its connexion with Gytha, the mother of King Harold

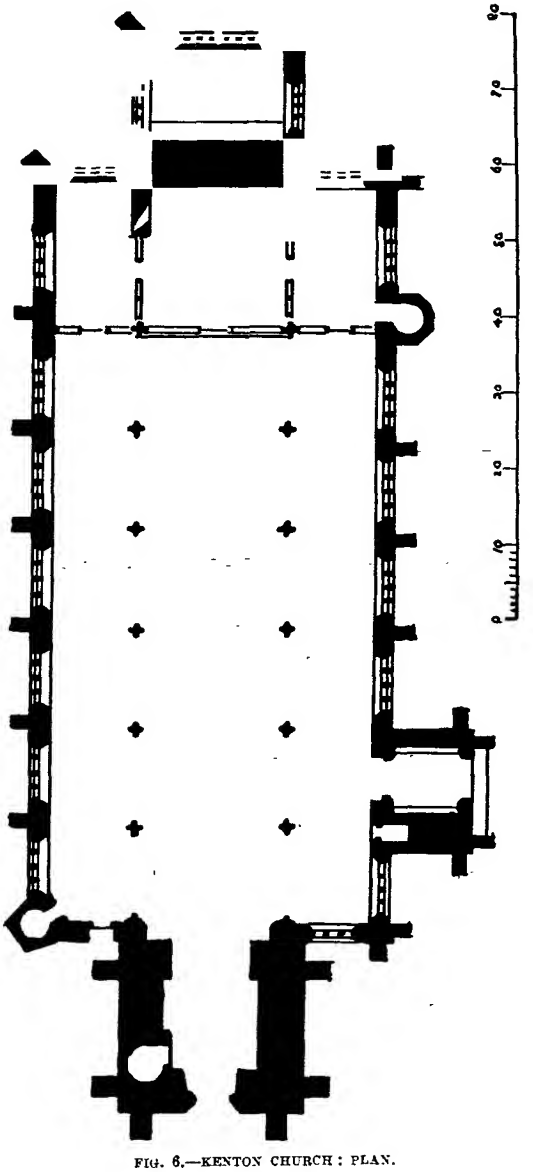


FIG. 6.—KENTON CHURCH: PLAN.

INTERIORS.

There is a great similarity in the nave arcades, the piers in plan generally being set diagonally, having a half-column at each angle with flat ogees between. In some few cases the impost is broken and the ogee continues around the arch [see fig. 8], but as a rule the capital is moulded and carved, especially with foliage and figures, as at Cullompton.

Where granite is used, a shallow hollow generally replaces the ogee. It is not unusual to find the columns monolithic, especially where granite, and even in the red conglomerate. Some of the pier stones are 7 feet deep at Kenn [fig. 9], the caps and bases being splayed only.

At Berry Pomeroy, where the church appears to have been rebuilt in the fifteenth century by one of the Pomeroys, the south aisle was added—probably in the early sixteenth century—by several subscribers whose names are carved on the arcade caps, in each case being that of husband and wife; as also at Honiton.

The nave piers at Totnes are more elaborate, while those at Stoke-in-Teignhead have canopied niches in the foliage bands. A clerestory is of rare occurrence.

Lydford interior has monolithic piers and four centred arches. The usual Devonshire floor gradation was one step up or level at the screen and another to the sanctuary, and with a low east window the altar cannot have been raised very high.

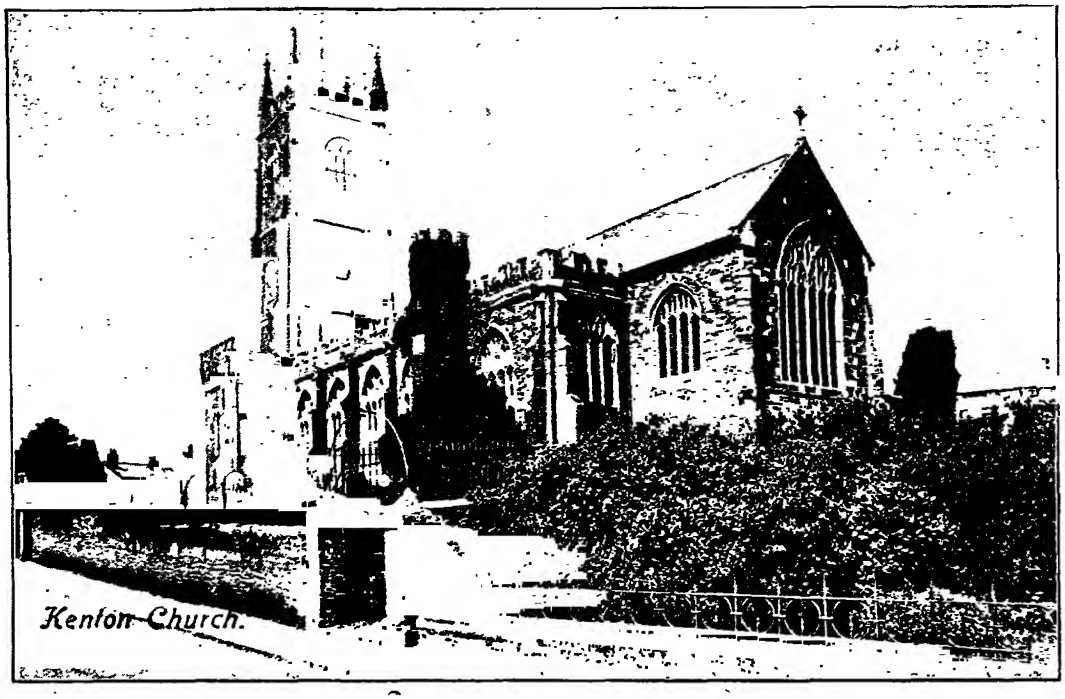


FIG. 7.—KENTON CHURCH.

The typical ground-plan comprises a chancel and nave with tower at its western end, north and south aisles continued north and south of the chancel, but slightly shorter than the choir, the three roofs being separated by gutters over the arcades; a rood screen running across nave and aisles—at Uffculme 67 feet long—the continued aisles forming chapels cut off from the choir by parclose screens, and provided with altars and piscinæ and doorway, a south porch with stoup on the right hand of the inner door, a parvise over porch. A north door opposite the south porch is not always found, while the position of the church in many cases demands the north porch as main entrance, as Axmouth, where the Norman door with its tympanum remains. This represents larger churches. Some are without aisles; others, as East Ogwell, nave and north aisle, with transeptal chapel on the south side; Abbots Kerswell, with one north aisle and south porch. Tavistock, a very large church, has a double south aisle; and Plympton St. Mary has nave and four aisles. There is, of course, much variety in the earlier plans, as at Ilsington and Townstall, and Tawstock, with Decorated transepts. One of the most capacious churches is that of St. Andrew's, Plymouth, of the three-aisle type.

SPIRES.

Spires we naturally expect to find on flat ground or in valleys. Devon is anything but flat, and the old builders seemed to prefer setting the church where its light might be seen—if not on a hill, at least on a hill-side; consequently of spires there are but few, and these of no special interest. Bishop's Tawton (where the bishops of Exeter had a residence) has one of Decorated date, crocketed and banded. Of simpler form one may be seen at Ringmore over the south porch, and others of little pretence at Slapton, Bigbury, Buckfastleigh, and Diptford. Barnstaple has a timber spire, lead-covered in 1636, and not quite so much awry as Chesterfield. The ground plan shows a good deal of expansion of the old church. In the

same locality is Braunton, with single span, Early English nave, and tower finished with a lead-covered spire—a great contrast to the later churches in fenestration. Picturesque shingle spires may be seen at Ashford and West Worlington and Brushford.

TOWERS.

If lacking in spires, towers are much in evidence, the majority being of Perpendicular date. South Brent has an Early Norman tower. Sidbury has one of the twelfth century, but capped by Perpendicular spire and battlements. Chudleigh has an Early English western tower, as has Clovelly. The latter was Kingsley's father's church, and in it are some fine brasses. The tower could hardly be simpler in form. Branscombe Church, near the Beerstone Quarries, is of Norman and later styles, the tower being at the east end of the nave—a not very usual position in Devon, although it occurs at Shute, Axminster, and Kingsbridge—the usual place being at the west end of the nave, as at Dodbrooke, where the size of windows may be noted in the south aisle, and also the porch, with parvise over in west bay of aisle. The three windows are of granite, with a minimum of labour expended on them. Angle buttresses and absence of strings may be noted, as well as the prevailing form of four-centred doorway under horizontal label.

Harberton is much more ornamental, the tower being in three stages with quoins and two buttresses to each angle of tower, the staircase being on south side, very large windows without labels and battlemented roofs, with the porch and parvise in the usual place. Kingsbridge, having a cruciform plan, has a tower and spire at the crossing.

Sheepstor has a plain square granite tower with little attempt at buttresses and rather top-heavy pinnacles: this is a strong contrast to a tower like that at Chittlehampton, one of the finest in Devon: it is 103 feet high to the battlements, and known as "Beauty." Chulmleigh and Broadclyst have also fine towers.

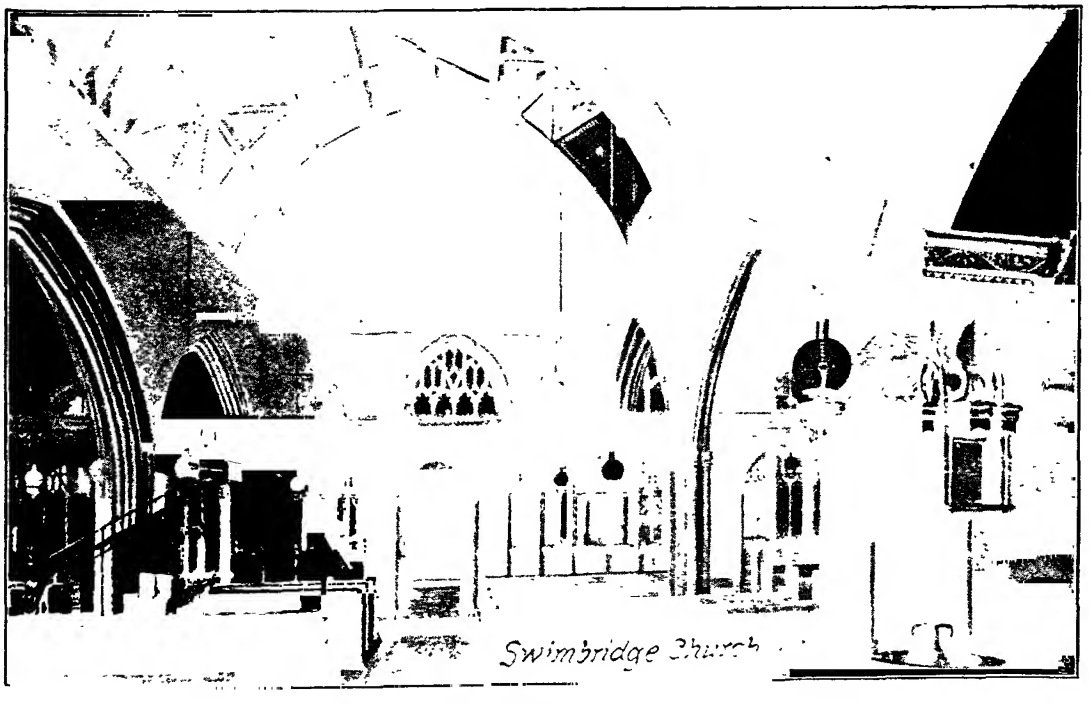


FIG. 8.—SWIMBRIDGE CHURCH.

Photo. by [illegible]

FIG. 9.—KENN CHURCH.

Colyton has a square tower at the crossing, battlemented and pinnacled, from which rises an octagonal lantern. Flint walling is used. Another singular feature of this church is the large west window which fills the west end of the nave and reaches almost to the floor.

Axmouth is a fair example of the common tower.

WOODWORK.

The chief glory of the Devon churches is in their woodwork; unlike the freestone, oak was plentiful and craftsmen were forthcoming who were equal to the task of producing beautiful forms in tracery and endless varieties of carving.

> "Trust me, no mere skill of subtle tracery,
> No mere practice of a dexterous hand,
> Will suffice, without a hidden spirit,
> That we may or may not understand,
> And those quaint old fragments that are left us
> Have their power in this—the carver brought
> Earnest care and reverent patience, only
> Worthily to clothe some noble thought."

The Bishop's throne in the Cathedral, made about 1317, is a magnificent piece of constructive carpentry lavishly carved. Little oak work of this date is left, but in the Perpendicular period, from about 1450 to the Reformation, highly ornate screens were introduced into almost every church. Both material and workmanship seem to have been local, although there are indications of outside influence: the great similarity points to a school of carving in Devon, Cornwall, and Somerset.

Staverton screen has been restored and a new rood-loft constructed; the restoration is based on that at Atherington, where four and a half bays of the screen with gallery over still remain across the north aisle, having a total height of 15 feet 10 inches. The floor of the gallery being 11 feet above aisle is 4 feet 3 inches wide. The vaulting coves spring from angel corbels, and the compartment panels are carved with figures and have bosses at the intersection of the ribs. The west front of the gallery is panelled, surmounted by richly wrought canopies finished by a vignette cornice mould with interlacing cresting. The panels were painted with scriptural scenes as in Exeter Cathedral. The vignette enrichment of the cornices is in three divisions [fig. 10], with cresting above and below. An undulating vine branch with vine leaves, grapes, and tendrils form the foliage strips, and they are modelled with much spirit but conventional repetition; plain beads intervene. At Lapford they take the form of cable moulds, and the foliage is more varied: this screen has much in common with Atherington, and is of a Renaissance type, the groin panel being quite Italian in treatment.

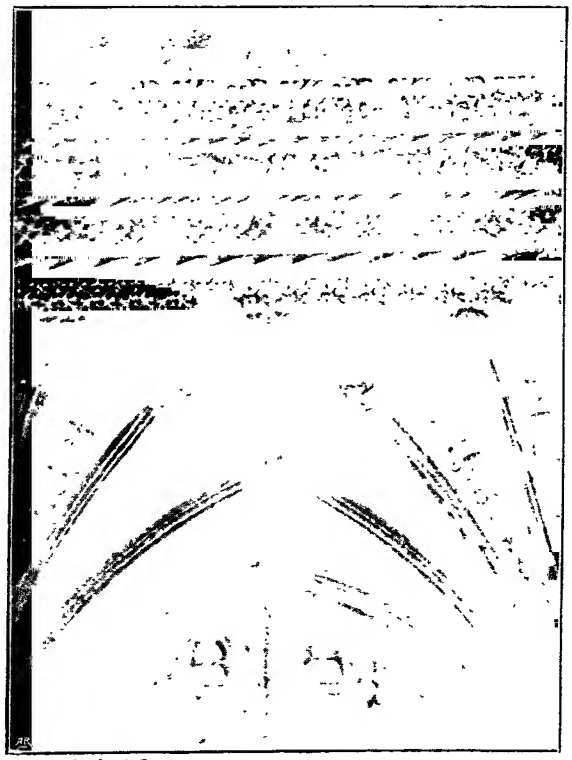


Photo. by the Author.

FIG. 10.—LAPFORD CHURCH: DETAIL OF SCREEN.

There are several types of screens, varying with the localities, some showing Flemish and others Spanish or French influence.

Kenton has been ably restored and provided with a rood gallery. It is now one of the finest screens in the county. At Lew Trenchard another old screen has been restored, and the rood-loft gallery provided with painted panels.

These enable one to judge the important place the rood-loft held in the old churches. Of the rood itself we have no example remaining. At Cullompton the golgotha or base with mortises for cross is preserved, though not *in situ*. The base of the Kingsbridge rood is also preserved. It is not to the Tudor Henry VIII., Edward VI., or Elizabeth, who ordered the removal of the rood-lofts, that the entire destruction of the screens themselves must be ascribed; many persons now living remember the removal of screens of great beauty, some of which found a resting-place in other churches, as in St. Mary Steps; that from South Huish is placed in the private chapel at Bowringsleigh House. Evidently there was no active opposition such as met Edward VI.'s commissioners when they proceeded with the demolition of the rood-loft at St. Nicholas', Exeter. On that occasion the church defenders were women—we have a graphic account by a contemporary—and they asserted themselves in a very

militant manner, throwing missiles at the workmen. Whether they did most damage to the screen or to the workmen I do not know; but it is mentioned that the latter hardly escaped with their lives, and suffered broken ribs.

In addition to these, there are numbers of screens still retaining their groining and cornice. At Harberton we have the usual treatment, and with lower traceried and painted panels; at Littleham and a few others the panels are completely traceried, but generally they are filled with figures of saints, as at Ashton, Bradninch, and Plymptree, and are the major part of our medieval paintings, being a most interesting series, which would occupy too much time to enter upon on this occasion.

At Harberton the casing of the piers is partly original and partly made up with portions of the gallery. The stone pulpit is quite in harmony with the screen, even if the modern figures seem painfully conscious of their position. The parclose screens, as a rule, were flat with light cornices.

Dartmouth.—A local peculiarity of the Dartmouth type of screen is shown in the crocketed tracery of the bays. The painted figures are gone from the lower panels, and a modern cross has been fixed over the centre bay. Some very fine foliage ornaments the stone pulpit. Altogether the church is very interesting.

Of stone screens few remain, the finest being at Totnes, extending across the church, dating about 1460. Denuded of a gallery, it still has a very light and graceful appearance. Access to it was direct from the choir by a fine panelled projecting stone staircase, partly remaining: this is a rare position, the turret generally being in the outer wall of the north or south aisle. The east window is low, and the nave has a barrel ceiling with flat roof to aisles; the nave piers have a faint resemblance to those of the Cathedral. There are no steps to the choir. When the church was rebuilt in 1432, another method of raising money than bazaars was adopted by Bishop Lacy, who granted a forty days' indulgence to all who contributed to the work.

Stone screens still remain in part at Awliscombe, Colyton, Paignton, &c., but oak was the favourite material, as at Swimbridge [fig. 8], Bridford, Kenn, Pinhoe, Bovey Tracey, Cullompton, Uffculme, Bampton, Atherington, Marwood, Colebrook, Coleridge, &c., the earliest being at Welcombe.

The screen in Exeter Cathedral was known as "the pulpytte," and from it there and in some other churches the Gospel was read and sermons preached. In village churches it sometimes held the musicians and probably at times a small organ. When there was no chancel arch the space between the loft and roof was filled in with boarding to form a background for the rood: this was termed a "tympanum." In many cases the screens were not constructed with rood-galleries, but finished with a slight coving or cornice, as at Stokeinteignhead, Willand, &c. That at Cruwys Merchard is Georgian in Corinthian style.

Passing from the screens, which in themselves are of engrossing interest, we turn to the roofs, the internal woodwork of which in no way approaches that of East Anglian or Northamptonshire churches.

A favourite form of ceiling is the waggon-head or barrel shape, and to turn a slide upside down, such as that of Clovelly, Swimbridge [fig. 8], or Braunton, the idea of the nave or ship would be very complete: there are the oak ribs, and you might be standing in the bilges of a wooden vessel, each rafter with complete curved braces plain as in the choir, or with longitudinal ribs moulded and carved as in the south aisle. Another variety provides moulded ribs at intervals; and where special treatment is called for, as over the rood-loft, the compartments are boarded and have diagonal ribs, all enriched by cresting and the panels relieved with carved ornaments, and all intersections covered with carved bosses, as at Lapford [fig. 11] and

Chittlehampton. The wall plate, carved and moulded, is frequently broken by angel figures at the feet of the main ribs.

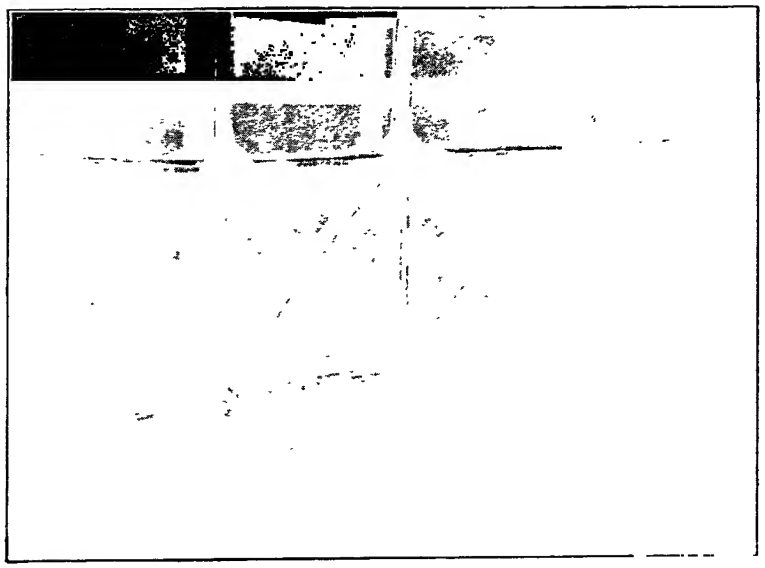


Photo. by the Author.

FIG. 11.—LAPFORD CHURCH: CARVED CEILING OVER ROOD-LOFT.

The earlier roofs of small churches were probably thatched, though there are none now so covered. In Norfolk they still exist, and it is only a few years ago that I replaced one with tiles. When the thatch gave way to rough slates, people probably detected draughts from the open roofs, and the curved timbers were boarded, and later plastered, leaving only the moulded ribs and bosses exposed. Roofs of such construction as might be expected, frequently spread, and symbolism was suggested to fit.

At Nymet Rowland the nave arcade piers and arches are of oak; also at Loxhore.

PULPITS.

There are many fine pulpits, but none that I recall of earlier date than Perpendicular.

Those in stone correspond generally in design and detail with the screens, suggesting that they were carved by the same men who made the screens, and consequently more accustomed to manipulating wood than stone. That at Dartmouth rises from a small panelled stem, traceried carving spreads outwards and upwards to an octagonal pulpit with small crocketed canopies on each face, the angles, base, and cornice being carved with luxuriant large-leaved foliage and finished with a cresting; badges are in the places no doubt originally intended to be occupied by statuettes.

At Harberton is another fine example of a similar character where the statuettes have been renewed in modern times.

Totnes, Chittlehampton, South Molton, and Pilton are after the same type, but not so richly carved. At Bovey Tracey, which has two tiers of canopies, the stem has been removed and the pulpit lowered; the top-heavy appearance certainly is not altogether satisfactory. Paignton has also a stone pulpit.

Wooden pulpits abound of Perpendicular, Elizabethan, and Jacobean work: the form resembles the stone, one of the finest being at Kenton, where the foliage, like that on the screen, is most exquisitely carved, the artistic bent of the craftsman leading him to revel in most unlooked-for treatment of his leaves and tendrils and the introduction of natural objects. There is a wonderful pliability in the disposition, and the extent of undercutting and interweaving is surprising. It has recently been reconstructed from fragments which, with better fortune than usual, had been preserved.

At Ipplepen is a fine carved oak pulpit in this series. Holne and Ideford show how old bench-ends and portions of screens have been jumbled up to form pulpits.

Cockington has a good pulpit of pronounced Renaissance type, while those of the Elizabethan and Jacobean are often met with, as at Ogwell, Allhallows Goldsmith Street, Exeter (demolished last year), Axminster (1633), and Great Torrington. There are pulpits at North Molton, Hartland, and Coleridge.

Sounding-boards have not all been removed. There is one at Pilton, but the so-called Gothic restorers swept away most of them as being post-Reformation, and therefore to be abolished. In Pilton there is a curious projecting iron arm for the hour-glass.

LECTERNS.

In St. Thomas's Church, Exeter, is a splendid oak lectern of Decorated style: a triangular base, panelled and canopied, forms the socket for a sliding book-rest, consisting of an eagle upon a sphere. The height can thus be adjusted to suit the reader. It is said to have been obtained from the Cathedral.

SEATS.

At Bickleigh is one of the red stone small village churches, externally of little attraction, but internally the reverse in respect of its monuments and carved oak bench-ends. At other churches, as Atherington, Cullompton, St. John's-in-the-Wilderness, Lapford [fig. 12], Clovelly, &c., are very massive benches, sometimes $3\frac{3}{4}$ inches thick, adze-hewn, with ends in cases as much as $4\frac{1}{4}$ inches thick, elaborately carved out of the solid, with small tracery

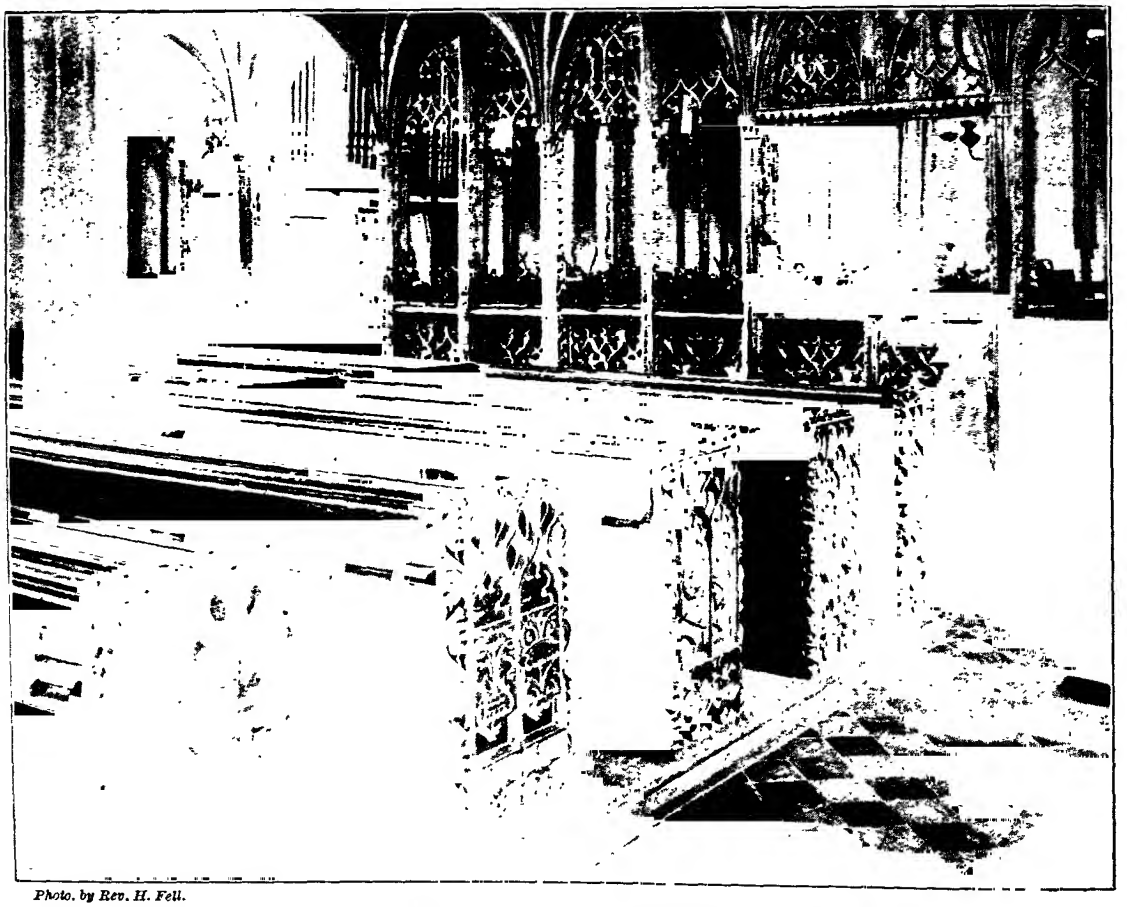


Photo. by Rev. H. Fell.

FIG. 12.—LAPFORD CHURCH: BENCH-ENDS.

panels, as at Braunton. Ilsington has a few good decorated bench-ends. At East Budleigh they are very crudely carved (1537). At Combe-in-Teignhead grotesque figures are introduced on the ends. Abbotsham, Ashton, Lapford, Chittlehampton, and Chudleigh show examples. Holcombe Rogus possesses a fine manorial pew, and at Cruwys Morchard the seats (of the seventeenth century) are lettered with the names of the various farms, &c.

FONTS.

I do not propose to do more than mention a few fonts; many are almost duplicate, and few of extraordinary interest. At St. Mary Church, Topsham, Stoke Canon, and Alphington there are very early Norman fonts on which symbolical figures—of varied interpretations—are sculptured. Numerous fonts of first transition date are preserved, as Farringdon, Coffinswell—Early English fonts varying in pattern from a mere bucket form, as at St. Pancras and Lydford, to more elaborate large square panelled bowls on columns. Two portions of the buildings were often spared by the fifteenth-century remodellers, the south door and the font, possibly out of a feeling that by one the place of the church was entered, and at the other admission to the church itself was gained. Sometimes the question arises, Was the font brought from some other church where it had been superseded? Although the fifteenth-century builders spared the font, such consideration in many cases has not been repeated in the nineteenth century, when the destroying restorers have re-dressed and re-carved out of all recognition the old work, and the only thing one can be certain about is the antiquity of the material.

Perpendicular fonts are, of course, very frequently met with, mostly octagonal in plan, as at Whitchurch, with traceried panels in stem and bowl enriched with coats-of-arms or foliage. The old position was immediately on the left on entering the south door, although many have been removed to the tower. With few exceptions the locking covers required by ordinance to be provided to the fonts are gone; instead of them at Pilton, Swimbridge [fig. 8], and Shaugh we have cupboards panelled and carved. At Pilton it is against the north wall of the nave.

COLOUR.

Little is left in the way of mural colour decoration, but at Dodbrook are mural paintings of St. Thomas-à-Becket. Cullompton, Littleham (near Bideford), and Axmouth have fresco work, the latter of very early date; while many rood-screens are adorned with figured panels, especially Ashton, Bradninch, and Plymtree. Some fragments of old glass remain, but except in the Cathedral there is little left, and even there hundreds of feet of beautiful stained glass have in years gone by been cut up into strips and kaleidoscopic patterns. At Doddiscombsleigh a window of the seven sacraments still exists; at Ashton, Dunsford, Littlehempston, Abbots Bickington, Bampton, Bere Ferris, and Coleridge is some old glass.

MONUMENTS.

We have not only the buildings, but the petrified counterfeits of the men who actually worshipped in them: proud lords, highborn ladies, belted knights, and ermined judges have stately monuments, affording an excellent field of costume study: the Seymour monument at Berry Pomeroy, the Acland monument in Broadclyst, Reynell Taylor's at Wolborough, Leach at Calverleigh, the Carews at Haccombe, &c. In the later work alabaster is largely used. But not only the sculptured urn and animated bust afford opportunity of rehabilitating those of high degree in bygone days, but a large number of brasses proclaim their virtues as faithfully as post-mortem descriptions generally do. The best brasses are at St. Saviour's,

Dartmouth, to John Hawly and wives (1408) under a triple canopy, and at Stoke Fleming, to John Corf and granddaughter, standing on a low pedestal (1391) with canopy; those of the fourteenth century remain at Stoke Fleming and Stoke-in-Teignhead. There are seven of the fifteenth century, and the sixteenth century is represented in seventeen churches, and the seventeenth century in fourteen.

LIST OF CHURCHES.

The following is a list of interesting churches, and, unless otherwise mentioned, the present buildings date from the fifteenth or early sixteenth century. The most convenient railway station is indicated by †, and the distance given in miles, while the district is shown by the large capitals, as EXETER :—

EXETER. Cathedral.
St. Mary Arches: Nor. nave, monuments, embroidery, ironwork.
St. Mary Steps: Font (Nor.), screen, clock.
St. Pancras: Query of British foundation; early plan; Nor. and E. Eng. remains; also fragments of Roman tiles, pottery, &c.
St. Petrock's: Curiously situated; the plan, with successive developments, is singular. Monuments, plate (sixteenth and seventeenth centuries), embroidery.
St. Lawrence: Screen.
St. Stephen: Chancel and arch over public thoroughfare; rebuilt seventeenth century.
St. Thomas: Oak lectern.
Littleham † (Exeter, 12 m.): Screens.
Poltimore (Pinhoe †, 2 m.): Screen, font.
Broadclyst †: Tower, windows, and monuments.
Kenn (Exminster †, 2½ m.): Screen.
Shillingford (Exeter †, 3 m.): Brasses.
Kenton (Starcross †, 1½ m.): Tower, porch, screen, pulpit.
East Budleigh †: Screen, bench-ends.

OTTERY ST. MARY †. Collegiate church: Two transeptal towers and eastern Lady chapel, minstrels' gallery, fan vaulting.
Honiton †: Screen, pier-caps.
Awliscombe (Honiton †, 2 m.): Stone screen.
Payhembury (Sidmouth Junc. †, 2½ m.): Screen.
Sidbury (Sidmouth †, 3 m.): Nor., E. Eng., and later.
Salcombe Regis (Sidmouth †, 2 m.): Nor., E. Eng., and later: interesting from its early work and a building at the north-west angle of problematic use.
Axminster †: Central tower (Nor., E. Eng., and later), parvise, sedilia, oak pulpit (1633).
Colyton † (Axminster): Central tower with octagonal lantern.
Coombepyne †: E. Eng. and later: tables, pre-Reformation chalice.
Branscombe (Seaton †, 4 m.): Nor., E. Eng., and later.
Axmouth (Seaton †, 1 m.): Nor., E. Eng., and later; early frescoes, inscriptions, effigy.

TIVERTON †: Nor. door, Tudor work in Greenway aisle with vaulting, monuments, brasses.
Bickleigh † (Tiverton, 4 m.): Bench-ends, monuments sixteenth and seventeenth centuries.
Cadeleigh † (Tiverton, 5½ m.): Monuments, floor tiles.
Bampton †: Screen and roof, glass, altar tombs.
Halberton (Tiverton Junc. †, 2 m.): Screen and pulpit.
Sampford Peverell (Tiverton Junc. †, 3 m.): E. Eng. and Perp.; Nor. font, screens, monuments, brass.
Loxbere (Tiverton †, 4 m.): Woodwork.
Holcombe Rogus (Burlescombe †, 2½ m.): Carved oak-work, screens, roofs, manorial pew, monuments.
Cruwys Morchard (Tiverton †, 6 m.): Seating and screen, 1689.

CULLOMPTON †: A fine Perp. church, elaborately panelled and carved on the exterior, especially the S. aisle, with marine and mercantile subjects and floriated inscriptions. A clerestory and noteworthy tower profusely sculptured externally, a screen, carved roof, frescoes, fan vaulting, body stones, leadwork.
Kentisbeare (Cullompton †, 3 m.): Screens, brass.
Bradninch † (Hele, 1 m.): Screen with painted panels.
Plymtree (Cullompton †, 4 m.): Screen with painted panels.

CREDITON † (Exeter, 8 m.). Collegiate church: Nor., E. Eng., and later; central tower, clerestory, eastern Lady chapel, early font, sedilia, monuments, chests, armour, library.
Colebrook (Crediton †, 4 m.): Screen.
Lapford † (Exeter, 17 m.): Screens and carved oak to benches and roofs.
Nymet Rowland (Lapford †, 2 m.): Wood arcade; Nor. and later.
Coleridge (Eggesford †, 3 m.): Screen.
Brushford (Eggesford †, 3 m.): Wood spire.
Chulmleigh (Eggesford †, 3 m.): Screen, armour.

ASHTON † (Exeter, 8 m.): Screen with paintings, glass.
Doddiscombsleigh (Ashton †, 2 m.): Glass.
Dunsford (Langdown †, 2 m.): Monuments, glass, font, and plate.
Bridford (Christow †, 3 m.): Screen.
Chudleigh †: E. Eng. tower, benches, font, screen.

BARNSTAPLE †: E. Eng. and later; lead-covered spire, monuments; St. Anne's Chapel in churchyard, used as a grammar school, has some interesting E. Eng. and Decor. work and later woodwork.
Pilton (Barnstaple †, ½ m.): Portions of old prior church, screen pulpit, with hour-glass stand.
Bishopstawton (Barnstaple †, 2 m.): Decor. and Perp., with spire.
Swimbridge (Barnstaple †, 3¾ m.): Screen, font enclosure, monuments.
Tawstock (Barnstaple †, 2 m.): Decor. and Perp.; monuments, state pew, carved benches.

Chittlehampton (Umberleigh †, 2 m.): Lofty and ornate tower, known as "Beauty"; carved timber roofs, fifteenth-century brasses, carved stone pulpit.

Atherington (Umberleigh †, 1 m.): Screen, with loft remaining; carved bench-ends, brasses, and tombs.

South Molton †: The third of the noted towers named "Strength"; monuments, stone pulpit.

North Molton (S. Molton †, 2½ m.): Screen and oak pulpit.

Kingsnympton (S. Molton Rd.†, 2½ m.): Screen and spire.

Braunton † (Barnstaple, 5½ m.): E. Eng. and Perp. spire, cradle roof, fine carved benches, brasses, iron coffer.

Ilfracombe †: Nor. and later styles.

Morthoe †: In several styles; carved oak seats, tombs.

Combemartin (Barnstaple †, 5 m.): Screen, brass, monuments, glass, oak seats, and chest.

BIDEFORD †: Rebuilt except tower; font (Nor.), Grenville monument (1513), screens.

Wear Gifford (Bideford †, 4 m.): Decor. and Perp.; good roof, tombs.

Abbotsham (Bideford †, 2½ m.): Carved bench-ends.

Littleham (Bideford †, 2½ m.): E. Eng. and Perp.; fresco, carved oak.

Hartland (Bideford †, 13 m.): Tower, screens, stone altar, brass, pulpit, font (Nor.).

Welcombe (Bideford †, 15 m.): Early screen.

Gt. Torrington †: Rebuilt 1651; pulpit, some leadwork.

Beaford (Portsmouth Arms †, 6 m.): Oak roof.

St. Giles-in-the-Wood (Torrington †, 3 m.): Brasses of the fifteenth, sixteenth, and seventeenth centuries.

Frithelstock (Torrington †, 1 m.): Oak seats; adjoining are ruins of a priory of Austin Canons (1220).

Monkleigh (Torrington †, 2 m.): Carved oak seats, screens, brasses, and monuments.

Clovelly (Bideford †, 11 m.): Nor. and later; font (Nor.), brasses, oak seats.

Woollfardisworthy (Bideford †, 8 m.); Nor. and later; font and door of Nor.

BOVEY TRACEY †: Screen, stone pulpit, and monuments.

Lustleigh † (Bovey, 2¾ m.): E. Eng., &c.; Easter sepulchre, effigies (fourteenth century), stoup, screen, inscribed Runic stone plate.

Ilsington (Bovey †, 2¾ m.): E. Decor. and later; screens, effigies, carved benches, parvise, ale-trough, lych-gate.

ASHBURTON †: Late Nor., &c.; carving, vestry.

Widdecombe-in-the-Moor (Ashburton †, 6½ m.): "The Cathedral of the Moor"; tower, screen, piscina, and sedilia.

NEWTON ABBOT †. Wolborough: Screens, brass lectern, glass, benches, and monuments.

Bishopsteignton (Teignmouth †, 2 m.): Nor. and Perp.; Nor. carving.

Combe-in-Teignhead (Teignmouth †, 3 m.): Screen, font, brasses, bench-ends.

Stoke-in-Teignhead (Teignmouth †, 3 m.): Brasses (fourteenth century), screen.

Haccombe (Newton Abbot †, 3 m.): E. Eng., &c.; screens, brasses, tiles, and monuments.

East Ogwell (Newton Abbot †, 3 m.): E. Eng., &c.; screen, benches, monuments.

West Ogwell (Newton Abbot †, 2 m.): Cruciform plan, E. Eng., &c.; sedilia, oak pulpit.

Torbryan (Newton Abbot †, 4 m.): Lych-gate, screen, pulpit, glass, churchyard cross.

Ipplepen (Newton Abbot †, 3 m.): Screen, oak pulpit, piscina and aumbry, churchyard cross, ancient chalice.

TOTNES †: Stone rood screen and internal stairs to ditto, carved benches.

Little Hempstone (Totnes †, 2 m.): Ancient glass, screen, effigies, and fonts.

Staverton (Totnes †, 3½ m.): Screens.

Berry Pomeroy (Totnes †, 2 m.): Fine monuments, screen, brass, pier-caps.

Harberton (Totnes †, 2½ m.): Carved stone pulpit, screen, font, porch, parvise, churchyard cross.

Tor Mohen (Torquay †): Of more interest than the Parish Church are the ancient chapels on Chapelhill and at Ilsham; also Torre Abbey.

Corkington (Torquay †): Screen, benches, wood pulpit.

Paignton †: Nor., E. Eng., &c.; stone screen, pulpit, effigies, churchyard cross.

Marldon (Paignton †, 2 m.): Monuments, vestry.

South Brent † (Totnes, 8 m.): Early Nor. tower, font, sedilia, ironwork.

DARTMOUTH † (St. Saviour's): Partly Decor.; fine screen with painted panels, carved stone pulpit, carved woodwork, ironwork, leadwork, fine brasses (*circ.* 1408, 1470, 1600).

Townstall: E. Eng., &c.; effigy.

Blackawton (Kingswear †, 6½ m.): Screen, sedilia, font, fine brass.

Slapton (Kingsbridge †, 7 m.): Spire, screen, tower, and ruins of Poole Priory.

KINGSBRIDGE †: Cruciform plan, central tower with spire, E. Eng., &c.; plate, miserere stalls.

Dodbrook (Kingsbridge †): Screens, mural painting (death of Becket).

Bigbury (Loddiswell †, 2 m.): Decor., &c.; inscriptions, spire, brass.

Aveton Giffard (Loddiswell †, 3 m.): Cruciform, central tower.

East Allington (Kingsbridge †, 4 m.): Screen, pulpit, brasses.

Ringmore (Kingsbridge †, 6 m.): Early Nor., &c.; tower with spire.

Holbeton (Ivybridge †, 5½ m.): Screen.

PLYMOUTH. St. Andrew's: Tower, monuments. Charles Church (1640–57).

Plympton St. Mary † (Plymouth, 5 m.): Interesting church; vaulting, brasses, effigies; remains of Nor. priory in village.

DEVONPORT. Stoke Damerel: Monuments.

Bere Ferrers † (Plymouth, 8 m.): E. Eng., &c.; effigies, glass, font, bench-ends.

Tamerton Foliot (Bickleigh †, 3 m.): Effigies (*circ.* 1350).

TAVISTOCK †: Double south aisle, effigies, tower.

Brentor † (Tavistock, 5 m.): A small hill church; Nor., E. Eng., and Perp.; font.

Lydford †: E. Eng. and later; font.

Sampford Courtenay †: Carved oak.

Abbots Bickington (Holsworthy †, 8 m.): Spire and glass,

Spreyton (Bow †, 3 m.): Oak roof with inscriptions.

SOME OBSERVATIONS ON THE REPORT OF THE COMMITTEE ON REINFORCED CONCRETE.*

By E. P. Wells, C.E.

THE first thing I take exception to in the Report is the use of either cinder or coke-breeze, even if made with clean fresh water, as I have noticed failures taking place where this material has been used, and in all cases where I have had the work broken up the steel or iron has been badly oxidised. About twelve months ago I had a slab made of coke-breeze concrete 4 to 1, span 14 feet in the clear, and 6 inches thick. The reinforcement consisted of ½-inch rods, 4-inch pitch, with cross-rods ⅜ inch by 12-inch pitch. The ½-inch rods were 1 inch from bottom of slab to centre of same. The rods were clean when put in, not oxidised or coated with a cement wash. The centering was left up for six weeks after it was made, and when struck there was a deflection of over ½ inch due to dead load only. About twelve months after being made the slab was broken and every rod was found badly oxidised, though the concrete to all appearance was perfectly solid. Another instance:—A little less than two years ago we had thought of using (for a large work) the cinder obtained from the Liverpool destructors which was highly recommended as being perfectly satisfactory for concrete. I made some cubes in the proportion of 5 to 1, using a small amount of sand, and after seven days the crushing result was over 190 tons per square foot. When the cubes were twelve months old I observed that they were beginning to blow at several points on all faces. I then put a cube in the crushing machine, with the result that it collapsed at 123 tons per square foot—a fall of about 70 tons in twelve months. This decided me in the future never to use coke-breeze or cinder, as one cannot tell, except upon analysis, what impurities are in the material. With the ordinary coke-breeze employed by builders there are often small pieces of coal, and in course of time if the concrete is made hard and free from voids this coal will force off the surface, unless the gases can escape through the porous material.

I think it should have been stated in the Report that where concrete is used what one may call wet, very little punning is necessary, as it only forces the cement to the surface, which then runs away with the water. If the concrete is what is called dry mixed, then it must be thoroughly well punned, or else there will be little or no adhesion between the concrete and the steel reinforcement.

The reason why brick concrete suffers more than cinder concrete from fire is because very often the test has been made much too early, and the brick has not parted with its moisture; hence the formation of steam, which is bound to disintegrate the mass. If brick concrete were tested twelve months after being made I think you would find it would give better results in case of fire than any form of stone or cinder concrete.

I quite agree that the covering to the reinforcing in main beams should be 1½ inch to 2 inches as a maximum, but with reference to the floor slabs I am of opinion that ½ inch is ample.

With regard to columns 12 inches square and over, the centre of the rods should in all cases be not less than 3 inches from the faces. There will then be a considerable strengthening of the steel owing to the amount of concrete surrounding it.

With regard to the aggregate, I find from experience that if the size is ¾ inch down to ⅛ inch, and the sand from ⅛ inch down and mixed in the proportion that I have adopted of 5 to 1 (3 of stone, 2 of sand, and 1 of cement), it gives greater crushing results than where the stone is ¾ inch and over, except in the case of Portland-stone aggregate, when the difference in crushing is not so great. Unfortunately this stone cannot be used for reinforced concrete work owing to its being a limestone, otherwise greater strength could be obtained with Portland stone as an aggregate than with any other material.

There are great differences in strength between the various cements as made in this country. With regard to the ordinary cement of good quality, if I want to get a crushing resistance of 200 tons per square foot at six weeks I must make the proportion 4 to 1. If I want 200 tons per square foot, using a specially good cement, I can make it 6½ or 7 to 1, and for 300 tons per square foot concrete with the same specially made cement I use 5 to 1, and if I want 400 tons per square foot I use 4 to 1. For the latter, and using ordinary cement, the stuff would have to be made perhaps 2 to 1 or even stronger. I generally allow in my calculations for ordinary work that the concrete shall stand 200 tons per square foot, and everything is based on this assumption, except in the cases of columns desired to be made as small as possible: these I work up to 300 or 400 tons per square foot at six weeks old. With regard to the testing, it is of very little use to make your cubes for testing at the same time as the work is being constructed. What I do is to make the test before any of the work is done, and at the end of seven days I can tell by resistance to crushing what its value is going to be in two months, or its ultimate crushing after a lapse of four or five years. If I find the seven-day result is falling below what it ought to be, then I have other cement brought on to the works, or an increased amount added to bring the crushing up to the required standard. I am glad to see that you recommend that the tests should not be made until two months have elapsed in the winter-time; if it has been a severe winter the interval ought to be increased from two and a half to three months.

I quite agree that the test load should not exceed one-and-a-half the accidental or live load.

* Extract from a letter addressed by the author to Mr. H. D. Searles-Wood, Hon. Secretary of the Committee.

With regard to the loads coming on to columns or piers in buildings, I see the Committee recommend certain percentages to be deducted from the accidental loads on each floor until such time as the reduction amounts to 50 per cent. of the assumed load on the floor. This, I think, is quite in order for any building that is used for offices or private dwellings; but in the case of a factory or warehouse, where the floors may be and often are loaded up to their full, no deductions should be made for these loads. In the case of the foundations to a column, they should in all cases be calculated on the assumption that every floor will have to sustain the full working load.

Working Stresses.—The working stresses given are low for a concrete that will crush at 200 tons per square foot at a month. I, as a rule, allow for concrete in compression in beams subjected to bending 600 lbs. per square inch, whereas I might allow with safety 800 lbs. per square inch, which would then give me a factor of 4 to 1 in the concrete. I am a great believer in having a higher factor in the concrete than you have in the steel, as I find that the richer and the stronger the concrete is to resist compression, the stronger is the beam and the greater is the adhesion or friction of concrete to the metal. A low crushing resistance in concrete does not give much adhesion, and when loaded up to one-third or less of its ultimate crushing it will begin to show signs of a permanent set.

While I am speaking upon this subject I will give you the result of a cube that I tested on 4th May 1899 which was made on 27th April 1898. The cube was 4 inches by 4 inches, and was made of 4 to 1 concrete, the aggregate and the sand being Guernsey granite.

The block was put in the crushing machine at 4.25 p.m. on May 4th, and when 44 tons was applied the set or compression was nil; at 50 tons nil.

At $60\frac{1}{4}$	tons the compression was		$\frac{1}{2000}$	of an inch.
„ $70\frac{1}{3}$	„	„	$\frac{2}{2000}$	„
„ $80\frac{1}{3}$	„	„	$\frac{4}{2000}$	„
„ $90\frac{1}{2}$	„	„	$\frac{5}{2000}$	„
„ $100\frac{1}{2}$	„	„	$\frac{5}{2000}$	„
At noon on May 5th		the compression was	$\frac{11}{2000}$	of an inch.
„ 3.50 „ 6th		„ „	$\frac{13}{2000}$	„
„ 4.30 „ 13th		„ „	$\frac{14}{2000}$	„

So that between May 4th, when the load of $100\frac{1}{2}$ tons per square foot on the block was applied, and May 13th it had compressed $\frac{6}{2000}$ of an inch. The block was then tested to destruction and broke at 183 tons per square foot. This shows that with a block of this strength one-third the ultimate crushing has practically had no effect on the concrete. Sixty tons per square foot gives about 933 lbs. per square inch. So if a T-headed slab is worked out for 600 lbs. per square inch, and tested with 50 per cent. additional loading, there could not be any permanent set in the concrete. The tests that I am getting now at six weeks are nearly double 183 tons per square foot owing to the cement being of a proper nature and much more finely ground. I allow for concrete in columns in all cases 600 lbs. per square inch, if I use a richer concrete 900 lbs. per square inch, and if I use a very rich concrete then 1,100 to 1,200 lbs. per square inch.

With regard to the Committee's recommendation that concrete in shear in beams should only stand a stress of 60 lbs. per square inch, this is, in my opinion, very low indeed, and I should say this has been obtained from American tests of a lean concrete. I made a test some short time ago which gave for 6 to 1 concrete 484 lbs. per square inch as the ultimate. Another test with 5 to 1 concrete gave 500 lbs. per square inch.

I had some tests made with 5 to 1 concrete made as follows:—3 parts of Spurn gravel $\frac{3}{4}$ down, 2 parts of Spurn sand, and 1 part of cement. The cement used was the "Pelican" brand of Messrs. G. & T. Earle, Ltd., of Hull, the water used for gauging being 9·7 per cent. When thirty-one days old the cubes were tested by Messrs. David Kirkaldy & Son both for compression and for shear. The compression tests are as follows:—No. 1, 5,545 lbs.; No. 2, 4,451 lbs.; and No. 3, 5,166 lbs. per square inch, or 356·6 tons, 286·2 tons, and 332·2 tons, giving an average of 325 tons per square foot. These cubes were made at the same time as the test pieces made for shear, and from the same gauging. I cannot do better than quote Messrs. Kirkaldy's letter, because I think the results obtained do not, in my opinion, give the true resistance to shear. Messrs. Kirkaldy's letter is as follows:—

"We have the pleasure to enclose herewith the report upon the crushing tests, but we are not issuing an official report upon the shearing tests, as we do not feel satisfied that we entirely obviated all bending moment. The fractures show good shear however.

"As a matter of interest we give below the results obtained upon the shearing specimens:—

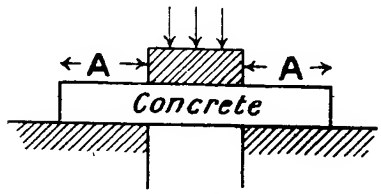
Test No.	Length	Breadth	Depth	Sectional Area	Total Stress	Double Shear per Sq. In.	Single Shear per Sq. In.
P.P.	Ins.	Ins.	Ins.	Sq. Ins.	Lbs.	Lbs.	Lbs.
2943	24·00	6·06	6·02	36·48	39,450	1,081	540
2944	24·00	6·07	6·03	36·60	38,000	1,038	519
2945	24·00	6·06	6·08	36·84	43,400	1,178	589

Weight of sample: P.P. 2943, 74·71 lbs.; P.P. 2944, 74·58 lbs.; P.P. 2945, 74·75 lbs.

"We should be interested to learn the proportion of aggregate to cement in the concrete at your convenience, so that we may record same in our books in the usual way."

You will observe here that the lowest is 519 lbs., and the highest 589 lbs. per square inch, but the crux of the whole question is in their remark "we do not feel satisfied that we entirely obviated all bending moment." I think that when a test is

made for shear—that over the areas marked A A on the sketch—the same should be thoroughly well held down, to prevent any tilting of the beam; and until this is done I do not think that any satisfactory conclusion can be arrived at. According to the tests it looks as if, assuming that no bending moment was put into the shearing piece, that shear may be taken anywhere between 10 and 11 per cent. of the ultimate crushing. It is my opinion—I may be wrong—that the shear, if correct, ought to be somewhere about 40 per cent. of the ultimate crushing. I intend having some rectangular beams made heavily reinforced in compression and tension, and the reinforcement members carried to within one foot of the points of support of the abutments. I shall make the reinforcement so heavy that the beam has got to shear. I shall then find out what is the correct shear in the beam when subjected to bending.



With regard to the adhesion of concrete to metal being 100 lbs. per square inch, this I consider very much too low indeed, especially for a 5 to 1 concrete. For 8 to 1 it is about right.

The whole of the Committee's formulæ for beam calculation is very interesting indeed, but at the same time cannot be used for the present-day method of doing work—viz. eternal rush. One has to make empirical formulæ so as to save time, and always to be on the safe side. This I have done in all my beam and column calculations; and as the work has in all cases stood the most satisfactory tests, I do not feel inclined to depart from the methods I have adopted. As I can do most of them on the back of an envelope, I do not feel inclined to waste a page of foolscap. With regard to beams of rectangular section, I nearly always adopt the double reinforcement, as I find it much cheaper, the amount of steel required in the compression of the beam being ever so much less in value than the amount of concrete that has to be put in to take up the compression coupled with vertical shear members. With regard to the T section of beams I adopt as a rule a uniform breadth of slab for the compression half of 60 inches. This I consider is very conservative indeed, and I allow over this area a compression of 600 lbs. per square inch, which for a 4-inch slab equals 64 tons, a $4\frac{1}{2}$-inch 73 tons, 5-inch 80 tons, $5\frac{1}{2}$-inch 88 tons, and a 6-inch 96 tons. In making my calculations I allow for the effective depth to be from the axis of the steel reinforcing in tension to the centre of the T slab, so that when I find any of my stresses are coming below the tons given above, no steel reinforcing is required in the compression half of the T-headed beam. You can easily see how this simplifies matters, and acts you will find everywhere in safe limits, even assuming that the concrete should not be all that is desired.

I notice that you find there is no satisfactory theory or trustworthy experiments from which the strength of rectangular slabs supported or fixed on all four edges can be determined.

I give you now the result of some slabs supported at ends only that were made from my designs for the Central London Railway. They were $2\frac{1}{2}$ inches thick by 1 foot 7 inches wide. The concrete was 4 to 1. Crushed Thames ballast $\frac{5}{8}$ down. Age when tested 35 days. With a clear span of 7 feet the beam took a distributed load of 4 tons before collapsing. It then failed in tension. The total area of reinforcement spread over the full breadth was ·83 square inch, and the centre of the rods was $\frac{1}{2}$ inch from the bottom or tension side of the slab. If you will go into this matter you will find that there were stresses in the steel and in the concrete that there had no business to be. Another case of a plain rectangular beam 6 inches by 6 inches, 5 feet clear span, concrete 5 to 1, composed as to 3 : 2 : 1, age six weeks, carried a central load of 2 tons before breaking. This beam had no steel reinforcement.

With regard to the columns, I have a very simple formula which I use for concrete, giving an ultimate resistance to crushing of 200 tons per square foot. As I previously stated, this is what I generally use for work that I design. I assume that the column, including the steel, is to carry 900 lbs. per square inch, 600 lbs. of which I allow to the concrete and 300 lbs. to the steel. I assume that the steel shall only carry 3 tons per square inch, and this gives $4\frac{1}{2}$ per cent. of the full sectional area of the column. The reason why I keep to 3 tons is on account of the large amount of initial compression being put into the steel during the setting action of the concrete. This is disadvantageous for a column, but with regard to a beam or a floor slab is, in my opinion, one of the reasons why when such work is tested to destruction it gives theoretic stresses of the steel that the same cannot stand. When columns are tested to destruction they always collapse before the calculated load is reached, owing, I think, to the steel being calculated on too high a basis. When I use concrete crushing at 300 or 400 tons per square foot I am enabled to reduce the area of the column, but have to increase considerably the area of the steel so that the ultimate crushing may show that steel and concrete are balanced. I have an enormous amount of data at hand with reference to the crushing of concrete made with the finely ground cements that are now made in England. The other day a 5 to 1 concrete had a crushing resistance of 416 tons per square foot at twenty-eight days old, and with neat cement that was six months in water and twelve months in creosote crushed at 1,366 tons per square foot, or about half the strength of wrought iron. The whole secret, in my opinion, of reinforced concrete work

lies not so much in the fact of the steel reinforcement, which may be low, as in exceptionally strong or rich concrete. The richer the concrete, the greater adhesion to the steel, the greater amount of initial compression is put into the steel, the crushing stresses are largely increased, and there is no chance of the concrete failing in compression. I believe in having a factor in compression of at least 6 or 7 to 1, and there will be no failure; but with weak compression it will begin to show signs of failure very early.

I have seen cases of very weak reinforcing, and in fact I can show you work now that was designed to carry 30 lbs. per square foot, and for the last two years has been loaded to over $1\frac{1}{4}$ cwt. per square foot without any sign of failure. In this case the concrete was very good. If it had been poor, the friction between the concrete and the steel would have been very little, and the work would collapse.

In continuation of my previous notes I think the following tests may be of interest, as the concrete was made with a pure rotary cement (Pelican brand), 9 per cent. on 180 by 180 sieve. The mixture was in the proportion of 3 parts Spurn gravel $\frac{3}{4}$ down, 2 parts Spurn sand $\frac{1}{8}$ down, and 1 part of cement. The following are the results, 7 days, 1 month, and 3 months, kept in air and kept in water:—

		7 days	1 month	3 months
Tensile—				
$2\frac{1}{4}$-inch section	*Air*	425 lbs.	597 lbs.	713 lbs.
	Water	646 lbs.	970 lbs.	*966 lbs.
Compression—				
6-inch cube	*Air*	49 tons	78 tons	91 tons per cube
= per square foot		196 tons	312 tons	364 tons
	Water	56 tons	104 tons	132 tons per cube
= per square foot		224 tons	416 tons	528 tons

* Bad briquette included; without this, average is 1,050 lbs.

The briquettes were made from the concrete. I was anxious to see if there was any ratio that could be depended upon between the tensile tests and the compression tests. You will observe that the crushing increases at a very much higher ratio than do the tensile tests. The crushing test of 528 tons per square foot for a 5 to 1 concrete at 3 months is, I believe, the highest result for that gauging that has ever been obtained; in fact with nine-tenths of the Portland cement made this result is greater than could be obtained with any neat crushing tests. The increase between concrete kept in air and in water is very great—104 tons at 1 month, and 164 tons at 3 months. The concrete was made exactly the same as it would be if used on the works, and you can easily understand that columns made with 5 to 1 concrete and with this rotary cement will stand a little more than 600 lbs. per square inch; in fact, at 3 months you could put with perfect safety 1,400 lbs. per square inch without any steel reinforcing at all.

9, Conduit Street, London, W., 28*th September* 1907.

CHRONICLE.

Sessional Paper on St. Paul's.

Mr. Mervyn Macartney [*F.*], Surveyor to the Fabric of St. Paul's Cathedral, and one of the Special Committee appointed by the Dean and Chapter to examine and report upon the stability of the building, will read a Paper dealing with the present condition of the Cathedral at the General Meeting of the Institute to be held on Monday, 18th November.

The Experts' Report on St. Paul's Cathedral.

The report of the committee of experts appointed to investigate the condition of St. Paul's Cathedral has been made public since the last issue of the Journal, the document being published in full in the current month's *Architectural Review*. The Committee, consisting of Sir Aston Webb, R.A. [*F.*], Mr. John Belcher, A.R.A. [*F.*], and Mr. Mervyn Macartney [*F.*], were instructed to examine and report upon (1) The stability of the whole structure of the Cathedral; (2) The extent to which the stability has been or is likely to be affected by any alterations or disturbances in the foundations of the Cathedral or in the soil in its neighbourhood; (3) The measures which ought to be taken to remedy such defects or guard against such damages as may be discovered. The Committee state their opinion that great danger to the Cathedral has been averted by the adoption, as they advised, of another route for the projected London County Council sewer, which was originally proposed to be taken within 45 feet of the south-west tower of the Cathedral. Documents consulted by the Committee show that a settlement was at work even in Wren's time when the building was in progress, and settlements, particularly in the piers supporting the dome, have continued in some degree to the present day. The principal fractures in the building appear to be of long standing, and there is no record of their origin; but at present, the Committee state, these give no ground for special anxiety; no evidence of "crushing" as a result of the various settlements has been discovered. The Committee conclude:—"After mature deliberation

and a thorough examination of the Cathedral and its foundations, we are of opinion that, in spite of these settlements, there is no immediate necessity for any extensive remedial measures to be undertaken; but this conclusion is based on the assumption that the present conditions of the subsoil and the present water level will be maintained. We are strongly of opinion that the sensitive condition of the structure makes it necessary that the church should be kept under constant observation, and we understand that a scheme for this has been formulated by Messrs. Barry and Leslie, your engineers. We recommend that your surveyor be instructed to make the necessary arrangements for its adoption, and for readings to be taken every three months. We also recommend that the condition of the subsoil and the state of the water level be carefully watched and periodically recorded, as all official investigations point to the same conclusion--that in them lie the possibilities of future dangers. In this connection attention should be given to all building operations in the neighbourhood, or mischief of a more serious nature may arise. We may mention that we have carefully considered the various safeguards and remedies brought forward at our meetings and published by the Press and others interested in the building, but we do not advise works of underpinning or of screening the foundations of the church. We consider that such operations would only be attended by fresh dangers. On the other hand, we consider that there is a large amount of structural work required in repairing the fabric which should be proceeded with without delay. The condition of the external stonework also calls for attention, and we have had the advantage of the opinion of Professor Church, who advises the removal of the incrustations of soot and gypsum by a wood tool, and the experimental spraying of portions of the surface with baryta."

Acton Council Offices Competition.

A copy of the last number of the JOURNAL containing the correspondence which had passed between the Institute Board of Professional Defence and the Acton District Council, and notifying the steps taken by the Institute Competitions Committee, was addressed to the Acton Council immediately after publication. A letter since received from the Chairman of the latter body, and the reply of the Secretary R.I.B.A., are appended :—

11 *Marlborough Crescent, Bedford Park, W.,*
4th September 1907.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I can only voice the remarks of members of your Association made to me as Chairman of the Urban District of Acton, representing a population of 50,000.

Allow me to say in my private capacity, recognising as I do the importance and influence of your great body of professional men, that it is a matter of astonishment to myself—also a professional man—that the R.I.B.A. should have delayed making inquiries of the Council until a writ had been issued by your complainant, which, as everyone knows, precludes the possibility of giving you any further information than that disclosed in the minutes of the Council. But if the matter does go into Court, which cannot be till after the competition is closed, you will, I believe, find that the Council as a body is only actuated by a recognition of its moral and legal responsibilities based on facts which might have been laid before your association had earlier steps been taken, or the legal proceedings been commenced in the ordinary way after the Long Vacation had terminated, or a reasonable time before it had begun. As it is, many of your members suffer the injustice, or what may turn out to be the injustice, of being debarred from entering into a competition which would have opened a prospect of considerable advantage to some of them. I myself feel strongly the imputation that the Acton Council has not acted as any honourable body of men ought to have acted, and I believe you will yet arrive at the conclusion that it has.—Faithfully yours, H. S. SCHULTESS YOUNG.

R.I.B.A.: 13*th September* 1907.

To H. S. Schultess Young, Esq., Chairman
Acton Urban District Council,—

DEAR SIR,—With regard to your letter of the 4th instant, addressed to the Editor of the JOURNAL R.I.B.A., I beg leave to point out that the action of my Committee was taken immediately after the facts were brought to their knowledge, and that my Committee could only form an opinion on the facts as presented to them by both sides in the dispute. In the information sent to the Institute by the Acton Council nothing was brought forward which in the judgment of my Committee could in any way justify the action the Acton Council were taking. If such facts as you refer to exist, it is difficult to understand how the circumstances of a writ having been issued could have prevented them being stated in some way, and also how such a statement could have prejudiced the case of the Acton Council.—I am, dear Sir, yours faithfully,

W. J. LOCKE,
Secretary R.I.B.A.

As a result of a resolution passed at a meeting of the Institute Competitions Committee on the 24th inst., the following letter has been addressed by the President of the Institute to the Clerk of the Acton District Council with reference to the appointment of an Assessor as advertised by the Acton Council :—

R.I.B.A.: 26*th September* 1907.

To the Clerk, Acton Urban District Council,—

DEAR SIR,—It having been brought to my notice that in the Conditions of this Competition you state that the Assessor will be appointed by the

President of the Royal Institute of British Architects, I regret to be compelled to inform you that under existing conditions it will be impossible for me to co-operate with you in this way.

No doubt you will consider the propriety of issuing some notification of this fact to those gentlemen who have received copies of the Conditions.—I am yours faithfully,

T. E. Collcutt,
President R.I.B.A.

Crosby Hall.

News lately with regard to Crosby Hall has been a little conflicting. It was stated a few days ago that definite instructions had been given for the demolition of the building, and that the work would commence on 30th September. As a fact, the modern front on Bishopsgate Street has already disappeared, and the old Hall itself now stands partly disclosed. Sir Vezey Strong, however, at the Court of Common Council last week, spoke in hopeful terms of the progress of his scheme for acquiring the building. The Lord Mayor, too, is interesting himself in the matter, and is to preside at a round-table conference to be held next Tuesday at the Mansion House, to which all concerned in the properties involved have been invited. It is satisfactory to learn that the attitude of the Chartered Bank of India continues friendly, but a strong hint has been conveyed to the promoters of the preservation scheme that an early decision must be come to.

To compensate the Bank for giving up its property in the Hall, it is suggested that buildings with a sixty-feet frontage on the northern side of the existing entrance to Great St. Helen's should be acquired, that the present thoroughfare and a portion of the property to be acquired should be handed over to the Bank, and that a new entrance to Great St. Helen's should be made north of the square block which the Bank would then possess. The Bank would seem to gain by the exchange, as they would get for their back land a very valuable addition to their frontage in Bishopsgate Street.

As regards ways and means of raising the necessary funds for completing the project, it is thought that the big City companies will give generous assistance. The public, too, after His Majesty's expression of opinion may be relied upon to subscribe a substantial amount. There are some forty livery companies which do not possess halls of their own, and they have to meet and dine at restaurants or hotels, or else apply to one of the larger companies for the use of a hall. It is suggested that these companies without halls should guarantee a certain annual rental for the Banqueting Hall, and have the use of the grand old place on so many days in the year. There would thus be an income-producing asset on which money could be raised, and the building would become a common hall for the associated livery companies.

Alderman Sir T. Vezey Strong, in a letter in *The Times* of the 24th inst., says :—

The central idea of preserving Crosby Hall is that it may not only stand for future ages as a beautiful monument of the architecture and associations of the dead past, but may serve—that great need of the present time—as a centre at which the representatives of the ancient guilds and modern societies concerned in technical education and industrial progress may meet for the promotion of the great commercial and industrial interests of the nation, which could nowhere be so appropriately focussed as in the City of London. It is felt that the formation of such a centre for the reforming activities of the age would furnish another and perhaps the highest practical example of the adaptability of ancient institutions to modern needs.

Beyond discussing this general desire, all that has been done up to this time has been to ascertain the practical possibilities of the case. To this end Mr. W. D. Caröe, architect to the Ecclesiastical Commissioners, who has taken the warmest interest in the scheme, has most kindly assisted the plans by making the necessary survey of the ancient buildings. The freeholders have also been approached, and have intimated that they are prepared to sell on fair terms the site which the Chartered Bank of India, Australia, and China are ready to exchange for that on which the ancient hall stands. Negotiations are also on foot, and considerable progress has been made with the tenants.

The Decorator's Craft.

The fourteenth annual convention of the National Association of Master House-Painters and Decorators opened at St. George's Hall, Liverpool, last week, and with it an exhibition of decorative work and manufactures, and of the drawings submitted in the apprentices' and international studentships' competitions promoted by the Association. From the presidential address delivered on the occasion by Mr. G. H. Morton it seems that the Association are taking seriously in hand the education of apprentices in the decorator's craft. Prizes are awarded for the best work, both plain and decorative ; and scholarships have been founded which enable successful students to spend some six months in Italy or other approved country in the study of decorative art abroad. The Association established at Manchester some four years ago a School of Decorative Painting on methods adopted abroad, particularly in Germany.

Mr. Morton, in the course of his address, said that all efforts for the better education of the decorator would not avail so long as a mistaken system of competition prevailed. To the ordinary commercial mind there was only one kind of competition—that of price. As a matter of fact there were other kinds, far more intrinsically important. There was competition in quality of work, in the artistic conception and in the carrying-out of a scheme, and in avoiding excess—for good decoration did not necessarily mean superabundance, but in most cases the very reverse. The great thing in decoration was to know when to stop. Competition of merit, not of price, was so frequently ignored that the painter of to-day had little time or encouragement to do his best work ; his chief

concern was not to lose on his contract. Most decorators' works, especially public works, were competed for by an absurd number of persons or firms of various capabilities and reputation. When such was the case, the probability, almost the certainty, was that the successful competitor—presumably the lowest in price—was quite incapable of carrying out the work with any artistic feeling whatever, often incapable of appreciating even what good work was, and the result, from the artistic point of view, was utter failure, and, from the point of view of work, bad. The idea was that the architect or surveyor would supply the art and see the work properly done. The architect might be quite competent in these respects, but if his client insisted on the lowest tender being accepted, and if the painter employed was incompetent, how could the architect's or anybody else's ideas be realised? It was equivalent to attempting to paint a picture with a trowel or a stick.

Sir William Forwood, who opened the exhibition, said that no one could go round it without being struck with the remarkable progress made in decorative art during recent years. Some of the examples of craftsmanship on exhibition were really magnificent. Whilst admitting that their progress in decorative art had been very great, he thought they should ask themselves the question whether it had been and was still proceeding upon the right lines, and whether it was all true progress, or simply a reaction from a very ugly period. They should also consider whether, in regard to decorative art, they had not arrived at a period when they were, so to speak, waiting for the development of a new art. It seemed to him that that was exactly what had happened at the present moment. Colour was the test of true decoration. Unfortunately, the new art strove after originality; he thought art ought to strive after beauty. He did not care what originality they might have; if the design in itself was not beautiful the effect could not be good. He knew of a house built and decorated for a gentleman who, when the work was finished, was told by the architect that such was the character of the decorations that he must not have one picture in it. At last, after a great deal of persuasion, this gentleman was allowed to hang on the walls just one picture of a distinguished statesman and ancestor. He (Sir William) believed there was no more beautiful form of decoration than pictorial decoration of the highest class, and he did not believe decoration would be proceeding on right and true lines until it recognised that and led up to the pictorial form rather than turn it out of the house and discard it. Pictorial art in this country had made great strides, but they could not expect it to continue to make great strides unless it had encouragement. If in carrying out their house decorations they excluded pictures, he wanted to know what was to become of the art of England. To adorn their houses with the pictorial art was the best form of decoration they could adopt.

Colour on Buildings.

Mr. Halsey Ricardo [*F.*], at the Decorators' Convention above mentioned, delivered an address upon "The External Application of Colour to Buildings," pleading for a more prominent place in the minds of both the public and decorators of the advantage of more truly artistic colours outside buildings. Touching the educational value of colour, he said that phase seriously affected the younger generation. The older people had grown up amidst the dreary monotone of their buildings, and had, mostly, got the idea that it always had been so and must always be, and that their life, externally, must be spent amongst dingy surroundings. But their youngsters ought not to be infected with that fatalistic creed. Colour—and good colour too—was not difficult to get. Their advertisements on the hoardings and walls showed that; and what had been found worth doing for so transient a purpose as to puff a proprietary article was surely still more worth doing when it meant guiding and educating their children during the most impressionable years of their lives. A school should not be a gaunt, austere building, but made as attractive and gay as colour could do it—inside and out. The strain on the attention of the scholars during the hours of lessons might safely be diverted and rested by having pleasant objects on the walls to look at, and by making the walls themselves humane and companionable by colour decoration. The children in the East of Europe, and still more so throughout Asia, grew up amongst bright surroundings. Their schools, their mosques and temples, wherein they were taught, were the repositories of the finest efforts in colour and coloured ornament, and the result was that the children, under those conditions of healthy eye-education—conditions that they could command in England were they persuaded to do so—grew up more alert and more tractable than ours who had to struggle with squalor and grim pedantry. There was no sin in bright colour, although it was shunned by many proper people. There was no safety to morals in terms of drab and mud. Bad taste might be committed and indulged more easily by the timid and ignorant use of low tones than by the courageous attempt to have full ones, and the failure was the more insidious and far-reaching because pusillanimity passed for prudence, and naturally, giving no one any sort of satisfaction, must be ranked therefore with virtue, and counted as such, since virtue (so the sour creed ran) was of its own nature an uncomfortable effort and its own reward. They had learnt from some of the modern posters how to deal with colour broadly; let them use that knowledge as a stepping-stone to deal with colour on large surfaces—not treating their efforts as necessarily monumental or imperishable, but recognising the conditions of its use and their material. Then there would grow up a school of house painters, and a tradition how the paint should be spread, and in course of time they might

hope in confidence to see their streets and public buildings looking fresh, clean and cheerful, and—it might be—beautiful.

The Coal Smoke Curse.

Sir William Richmond, R.A. [*H.A.*], who has earned the thanks of all for his eloquent and unceasing advocacy of the right of man to an unpolluted atmosphere, addressed the Sanitary Inspectors on the subject at their Conference held at Llandudno last week. Sir William said it took a deal of trouble and pains to instil new life, higher and more altruistic aims, into people who sat still, unmoved, unconcerned in an atmospheric *status quo*, as long as money poured in, even if in the meantime the sun was being "put out." Coal smoke was merely waste of fuel. It was a destructive and disagreeable agent, and it was as preventable as it was unnecessary. What was wanted to secure its prevention was that public opinion, which was the governing force in all communities, of the past, the present, and the future, should shake off inertia and with one voice proclaim its determination to force the hands of the selfish or thoughtless and oblige them to cease from abusing their prerogatives of wealth, to abstain from damaging other people's property, destroying beauty, making dirt, obscuring sun, the giver or disseminator of life. The absurdity of the defence of the nuisance that smoke and commerce were inseparable was shown by the fact that every puff of smoke from a chimney was waste, and it was therefore unbusinesslike to permit it. Those who did permit it were shortsighted as to their own interests, and inconsiderate towards others. But man did not live by bread alone. We were gifted in this country with great beauty of landscape, and especially so had we been in regard to the very districts which had now become squalid and unhealthy owing to this smoke curse. No great change which involved the loss of intelligent hand labour was all for good; but granted that machinery was a necessity, those who employed it should be forced by public opinion, and through that by law, not to make it a nuisance and to destroy by its fumes and smoke adjacent properties, trees, fruit gardens, churches, cathedrals, and what not. Our precious Westminster Abbey was fast decaying from the effect upon its surface of coal smoke, and many of our cathedrals were in a like plight. The Palace of Westminster was fast decaying under a like cause. And yet we sat still—Parliament did, anyhow—and let this evil go on until perhaps future generations would be done out of their just rights, the trusts of great works of art given to us to take care of and transmit. When the abominable demon of smoke was expelled—and it would be expelled if we determined that it should be—there would be gardens on our housetops, trees in all our streets, fountains of pure silver water bubbling up in our squares; there would be less squalor, less drink, more healthy outdoor life, greater sanitation, and, above all, a happier people.

Tintern Abbey.

Mr. Harold Brakspear, F.S.A. [*A*], has been instructed by the Office of Woods and Forests to make a complete survey of Tintern Abbey, and excavations are to be made under his direction on the site of the infirmary and buildings of the outer court. Mr. Brakspear states that the site of the gatehouses appears to be covered by roadways, and that unfortunately he will not be able to unearth them, but as much will be done as possible to make the plan as complete as those he has already published of Fountains, Waverley, and Beaulieu.

Council Appointments to Standing Committees.

The following appointments to the Institute Standing Committees have been made by the Council under By-law 46 :—

Art Committee: Sir Aston Webb, R.A. [*F.*], Messrs. John Belcher, A.R.A. [*F.*], George Frampton, R.A. [*H.A.*], T. Raffles Davison [*H.A.*], W. A. Forsyth [*F.*].

Literature Committee: Messrs. John Bilson, F.S.A. [*F.*], Francis Bond, M.A. [*H.A.*], J. D. Crace [*H.A.*], Henri Favager, F.S.A. [*F.*], A. T. Taylor [*F.*].

Practice Committee: Messrs. Ernest Flint [*F.*], John Murray [*F.*], W. E. Riley [*F.*], Wm. C. Waymouth [*A.*], R. S. Wilkinson [*A.*].

Science Committee: Messrs. Bernard Dicksee [*F.*], F. N. Jackson [*H.A.*], Sydney Perks [*F.*], F. T. Reade [*H.A.*], W. Jacques [*A.*].

Criticism Criticised.

Albert Buildings, 49 *Queen Victoria Street, E.C.*, *4th September* 1907.

To the Editor Journal R.I.B.A.,—

Sir,—I trust you will permit me the necessary space to deal, as cursorily as may be possible, with some of the criticisms contained in Mr. Bligh Bond's review of my book, *The Principles of Architectural Design*. It is, I consider, a commendable practice to favour the one slashingly criticised with an advance proof so as to admit of the opportunity of commenting upon the remarks in the same issue in which the latter are to appear, and I regret you did not give me this opportunity. *

Under the circumstances, I have refrained earlier from writing; nor do I wish even now to impart a sense of angry disclaimer, where I feel anger is not justified. I am quite aware that the review is not inspired by any animus, but I cannot help feeling

* Our correspondent, presumably, has had exceptional experience. For ourselves we cannot recall even an isolated instance in journalism of the "practice" he commends.—Ed.

that Mr. Bligh Bond was the victim of what Dickens called "a bit of undigested cheese" when he wrote so witheringly. I have perhaps a right to this opinion, in view of the generally enthusiastic way in which the book has been reviewed by the Press throughout. And it is with a view that your readers may not be unduly prejudiced that I ask for the space to comment upon Mr. Bond's verdict.

In the first place, though merely in passing, may I suggest that it is irrational to cover two pages with adverse criticism and then to declare that the work cannot be seriously criticised. And I observe that Mr. Bligh Bond has throughout treated as studied designs in the higher qualities of Art what are, for the most part, merely intended as diagrammatic illustrations of particular principles. I should naturally hesitate to dogmatise on the quality of Art in design; principles cannot supply the want of creative genius, but they may support the apt expression of such genius. Therefore, in introducing the views of a house on Plates XI. and XII., I did so diagrammatically (for the house was never intended to be carried out). And so throughout the book Mr. Bond has dealt severely with diagrams *from his own standpoint*, regardless of the immediate purpose of their introduction.

I consider his remark as to "the painful immortality which so many architects are called upon to endure in this work" is as uncalled for as it is ungenerous. Of course I am aware that the review expresses the views of an individual and not of a Commission, and had Mr. A. or Mr. Z. been the reviewer, it is feasible to suppose their views would have ranked with the other good ones to which I referred earlier. But your readers, Sir, will overlook this fact, and are likely to be prejudiced in consequence. As regards "painful immortality," I am confident that Mr. G. H. Fellowes Prynne, Colonel Edis, Messrs. Davis and Emanuel, Seward, Waterhouse, and others, would not experience the sensation.

I absolve your reviewer from a charge of animus—and readily; but I cannot acquit him of a lack of fairness; he complains of my personal views, and almost in the same sentence utters an equal complaint when I quote from the works of architects whose views are generally held in respect; and to pretend that these extracts are inserted in order to add substance *quâ* substance is a perversion of facts which an inspection of the pages of my book will easily refute.

Mr. Bligh Bond must have but carelessly read the preface; else he would be aware that, saving in respect to Plates I., IX., XXVI., and XXIX., all the illustrations were produced from my drawings; and I challenge the justice of the terms "slovenly, clumsy, and inept," as applicable to the vast majority—if indeed to any at all; suffice it here to refer to some of the Plates, to which he has *not* drawn unkind attention for any specific reason, such as Plates V., XVII., XIX., XXV., &c.; were it not for that "bit of undigested cheese," even Mr. Bond would not cavil at these or many others.

Now, Sir, I am drawing to a conclusion; and in adverting to the criticisms on "Symbols," I would ask if it is justifiable to omit references to elementary details merely because they *are* elementary? On that assumption, an arithmetic book should omit the four simple rules, and Euclid should omit the axioms. And it is to be remembered that architectural works do not merely sell in the country of their origin; the book under discussion has already found its way (and not by solitary copies) to distant climes—Japan amongst others; and what may be elementary to home readers may be news to foreigners. And, in this connection, to cavil at illustrations of our Royal Arms and the coinage is a patent absurdity.

The initial kindly reception accorded to my book, both as regards opinions and sales, justifies me in deprecating such a whole-heartedly adverse review as Mr. Bligh Bond has written.

Faithfully yours,

PERCY L. MARKS.

P.S.—I forgot to insert that the so-called jumble of door and window designs is absolutely justified in a book dealing with general principles.

*** The following letter has been received from Mr. Bligh Bond, to whom an advance proof of Mr. Marks's letter had been sent:—

26th Sept. 1907.

To the Editor JOURNAL R.I.B.A.

Mr. Marks seems to have felt the severity of my remarks in regard to some of his illustrations, which he says were intended to be diagrammatic only. These were nevertheless offered by him for the elucidation of certain architectural principles, and I think he would be the first to admit that they were designed to constitute a recommendation of those principles—to demonstrate their value, in fact, by the good effect of their application.

In my judgment they failed to do so, and further, on general grounds, I thought them wanting in the qualities which would make them fit, apt, or telling as illustrations, whilst some were vitiated by incongruities which I felt bound to condemn.

Whilst a criticism on artistic grounds might with some show of justice be deemed irrelevant (had my strictures been based on these alone), I maintain that there is a standard of technical merit even in diagrams below which a modern publication should not fall; and I would venture to urge upon Mr. Marks the desirability of a wholesale revision of his diagrams in any future edition of his work.

Let me say, in conclusion, that I appreciate the very moderate and good-tempered tone of Mr. Marks's letter, and his willingness to view the work of the critic as above the plane of personal feeling.—I am, Sir, yours faithfully,

FREDK. BLIGH BOND.

ON THE INFLUENCE OF THE USE OF IRON AND STEEL ON MODERN ARCHITECTURAL DESIGN.

By Victor D. Horsburgh [A.], *R.I.B.A. Essay Medallist* 1907.

[Essay, submitted under motto "Three Ages," awarded the Institute Silver Medal and Twenty-five Guineas 1907.]

INTRODUCTION.

GLANCING down the course of Western Architecture from the Greek period to our own time, it becomes apparent that, with the exception of the influence of concrete in the production of the great vaults and domes of the Romans, no new material of considerable structural consequence appeared till the nineteenth century. The evolution of Roman to Romanesque, Romanesque to Mediæval, and Mediæval to Renaissance was the outcome of political, religious, or philosophical change, and latterly of historical research. Each phase of the art was successively expressed in the same stone, brick, marble, and timber as its predecessor. Even the acute structural problem of the vault was solved by the dynamical properties of the pointed arch, and the regular progression of our own architecture from Norman to Perpendicular was accomplished also without change in material.

The influence of any new material on architecture must necessarily be subordinate, not only to the primary creating force of human need, but to the primary controlling fact of human stature. These are perpetual forces, as potent to-day to maintain, as they were in the early ages to mould, the architectural forms which we have inherited. Our architecture is further founded on and interwoven with the æsthetic ideals of Western civilisation. Steel must first, through the structure, modify these ideals before it can exercise an influence on at least the æsthetic aspect of architecture in anything like proportion to its structural possibilities.

Timber has contributed its natural form to Art, stratified rock has influenced building, many natural forms have been drawn into its service, but iron has no such contribution to bring to architecture. It is in its natural state without form, and is more or less minutely distributed in other substances. Compared even with clay it must be laboriously won and fashioned for human use.

Our ordinary building materials are the selection of centuries of experience, and it follows that a new material will exert its influence in the degree that it is suited to replace or combine with the old, and in the degree that its novel characteristics render new developments necessary. As iron and steel serve purposes previously served by stone, brick, and

timber, we must therefore expect their more direct influence to be extended in the proportion in which they are superior, and limited in the proportion in which they are inferior, to these materials.

The influence of iron and steel will not be restricted to that which they may directly exert by their presence, but we may also seek to discern what new philosophy their novel structural incidence will add to architecture, or what old philosophy they will stimulate and quicken into active life.

It is a new thing in at least Western Architecture to have a material necessary in cases, but not of universal application. The old materials were before this phase structurally suited to the greatest and the humblest buildings. The peasant's cottage might not have the rare imported marble, but it was built in the local material, even if that were marble. Marble, stone, brick, and timber were used in the whole body of architecture; but structural steel will not be used in the whole body of architecture. It is not suited to our cottages, we do not want it in our churches, and it is only required to a limited extent in our largest houses.

Steel will influence architecture in its own sphere on lines an indication of which will be attempted below, and as it thereby influences the æsthetic perceptions of the architect its influence will be reflected in the remainder of the art.

Although in the fullest sense of the word architecture includes such structures as great railway bridges and other engineering works, it is presumably intended that the term Architectural Design be confined to the structures ordinarily within the scope of architectural, as distinguished from engineering, practice. In any case such structures have far exceeded the dimensions possible in the old materials. They have passed the phase of being merely influenced, and reached the stage of being wholly created by steel along with mathematical science.

Historical Note.—Iron has of course from a remote date played a minor and occasional part in architecture, but as now used is a comparative innovation. The rolling of iron was not invented till 1784, although a moderate use of cast-iron columns and beams was made at an earlier date. Our present *steel* construction is only in its third decade, having, after the institution of the Bessemer process, appeared in the market as a building material so recently as 1885. Twenty odd years is a trivial period as time is reckoned in the story of architectural evolution, and the influence of iron and steel on architectural design must be regarded as a thing in its infancy. The assistance of iron chains was invoked in the construction of the great Dome of Florence and our own St. Paul's, and iron tie-rods were at times used in both Mediæval and Renaissance arches and vaults. These may be regarded as incidents, not without their influence, but in no way parallel to the present-day use of iron and steel, and in no essential principle diminishing its novelty.

CAST IRON.

The Beam.—Cast beams and columns were in use in the eighteenth century, long before rolled iron was available as a building material, and till late in the nineteenth century the cast-iron beam with its heavy bottom flange was frequently employed to carry walls and partitions over voids. Requiring less space than the arch, and no abutment, it was in its time welcomed as a more durable and seemly means of bearing stone or brick walls than timber. In recent times we have seen the cast beam given an external form; and with an architrave moulding masquerading unhappily as a stone lintel. The low tensile strength of cast iron necessitates a section which, compared with rolled iron and steel, is an extravagant use

of metal. The weight, and difficulty of casting large sections, its brittleness, as well as its liability to hidden flaws, tended always to restrict the use of the cast iron beam, particularly in floors; and the superior structural qualities of steel have now almost eliminated it from civil practice.

The Column.—In the form of the column, cast iron is put to a use more consistent with its qualities than in the form of the beam. The lack of tensile strength is here of less consequence, and its great compressive strength is almost alone called upon. The cast-iron column has been in use for more than a century, and is still found a convenient structural form in such structures as market halls, railway stations, shops, and others of like public resort and utilitarian nature. As distinguished from the rolled and built steel stanchion, the cast-iron column is capable of and is generally given in such situations external architectural and cylindrical form. In tall buildings the cast-iron column is also used, in some cases in preference to the rolled steel stanchion; and when enclosed it is used in hollow square, and in various open rectangular sections.

Cast iron offers more resistance to corrosion and fire than rolled iron or steel, but the same want of tensile strength which prevents its use in the beam limits the sphere of the column to situations where it is free, or can be guarded from lateral stress. It is further limited in its use by the difficulty of attaching its members one to another compared with the ease with which rolled steel forms can be connected by bolts and rivets.

The Crystal Palace.—The widespread attention drawn to iron construction by the erection of the Crystal Palace in 1851 gave an impetus to the employment of iron in building. The skilful use of column on column, the cast lattice beams of 24 feet span and the roof trusses of 72 feet span compounded with angle-irons and cast struts, were new things in such a situation. Deep lattice girders were, however, not adapted to ordinary buildings; the day of at least the cast beam was near its close, and a new influence in rolled iron was at hand. Apart from its influence on following exhibition and special buildings, the employment of cast iron in the Crystal Palace was more an initiatory factor in the development of iron construction than a direct influence on architectural design.

The influence of structural cast iron on architecture is similar to but less than that of structural steel, and it may be said that to a large extent its influence is contained within that of the newer material. It should, however, be noted that in so far as cast iron was first in the field, and prepared the way for rolled iron and steel, it initiated the influence of the latter.

It is singular how little attraction cast iron, and the column in particular, seems to have had for the architect. How rarely we see cast-iron forms evincing any evidence of artistic skill in their external design, or indeed which are of any but the crudest commercial pattern. When we consider the pleasing surface of a "fine" casting, and the pains taken and success attained in the production of grates, both of the eighteenth century and our own time, it is all the more remarkable that the design of other forms of cast iron should so rarely be the work of educated men. The considerable possible influence of cast iron must consequently be relegated to the class of "Might-have-beens." The probable explanation is that the age of rolled iron and steel had arrived before the need of cast iron was general enough to lead to its æsthetic development.

THE PRESENT USE OF STEEL IN BUILDINGS.

Introductory.—The use of iron and steel has steadily and rapidly been increasing during the past twenty or more years. Steel and concrete, or steel and fireclay, floors are almost universal in considerable buildings of all classes. In nearly all our large commercial buildings

floors are carried—at least where they require internal support—on steel stanchions cased in concrete or terra-cotta which is faced in its turn with marble or plaster. For many years our roofs of considerable span have been framed with steel, but covered with timber and slate or lead as in the past. Such structures as theatre galleries have also for the same space or longer been framed in steel concealed, in this case as in the others, first in timber and plaster, and latterly with concrete or other incombustible material. In some cases we have arrived at the complete steel frame, where beams and stanchions undertake the whole structural duties, the only function left to the wall being the exclusion of the weather. In the United States this system has been carried a step farther; the "skyscraper," compelled by congested city areas, has by reason of its great height rendered the independent wall standing on the ground impossible. A wall 300 feet high, even if it did not carry any floors, would at the lower stages require more space to provide for its own weight than is economically practicable. The result is a separate wall on each story resting on an attachment to the steel frame—a state of affairs new in architecture, and one which may, if it endures, wield a great influence on the old architectural forms, but which it has so far most notably failed to do. Viewed externally, the skyscraper is, except for its height apparently, as other buildings are, and only some mental calculation of the area necessary to the apparent stone or brick piers on the lower floors will reveal the fact that other than the old building methods must have been employed.

The Beam.—Perhaps the leading effect of the steel beam on architectural design is, as ever with steel, an immediate economy of space, and when considerable span or weight is dealt with an economy in cost also. With its aid apartments can be planned and openings provided in our ordinary civil buildings of a width which in past times would have involved a monumental construction to effect. Small apartments may be placed over large apartments, and complicated structures devised with a facility absent in the days of the timber beam and the vault. Where the girder replaces the arch the space previously occupied by the spandrel is no longer required for the construction, and the full height of the opening is extended to the whole width of its span. The effect is that the whole height of the structure may in many cases, such as bridges and gateways, be diminished by the height of the rise of the arch. The abutment also may be reduced in consequence from what was required to take the thrust of the arch to what is sufficient to support the superincumbent weight.

The use of steel has gone far in determining the design and facilitating the provision of such buildings as public libraries, baths, and halls. While it would be idle to pretend that buildings of this class could not be erected without steel, it must be conceded that the economies and conveniences of steel, particularly in the diminished area of supports, have, as well as influencing their design, influenced their utility and number.

A type of building which owes perhaps more to steel than others is that which is built for commercial uses in large cities. The walls are built probably conforming exactly to the form and extent of the site; a staircase and elevator are provided, and the floors are constructed in steel and concrete, with as few stanchions as possible. Each floor is then left as one apartment to be subdivided in any way which suits the occupant, irrespective of the position of the beams or the subdivision of the floor below, a proceeding which the strength of the floor provides for.

The Beam and Stanchion.—One influence of the steel stanchion on modern architecture is to accentuate and carry farther the effect of the beam. The economies which the beam effects on the sectional solids are extended in an increased degree by the stanchion to the floor, the wall, and pier. In its full development the beam and stanchion construction displaces the structural motive of the wall altogether. The wall becomes merely a division or an enclosing screen, sufficient if it is sound and weatherproof and able to carry its own weight. By beams the

weights are concentrated on a series of points, there to be borne by a material fifty times stronger than brickwork per unit of sectional area under working conditions. The consequent tendency is to plan such buildings in a way to utilise to the full the properties and economies of steel—in other words, to plan in a series of uniform rectangles marked by ranges of beams supported at the intersections by equally loaded stanchions.

One might be excused for presuming on first thought that the steel stanchion and beam would exercise a general influence on Architectural Design tending to their expression in piers connected by horizontal strings or bands, and that, on the whole, the influence would be towards a vertical effect. We might also expect to find this influence increasing as the use of steel increases from the floor beams only to the complete steel frame. The facts, however, seem to show that generally the reverse is the case, and that the pier effect is at its greatest when beams only are employed and decreases as the use of steel increases. When steel beams at considerable intervals are supported on the outer walls the weight that each beam concentrates at a point necessitates a pier, and the fact that the beam carries the whole floor weight renders a thinner wall possible in the intervening spaces. Here we have the pier façade at its point of greatest emphasis. When, however, the outer ends of the beams are carried by steel stanchions, the apparent pier consisting in the stanchion and its enclosing material requires, in the case of any considerable building, much less mass than the built pier in the first case, and the vertical effect is consequently minimised. Then, again, with the steel frame; when the wall of each story is carried on attachments to the stanchions, the convenient method of making these attachments on the outside of the stanchions leads to the walls being carried from end to end of the façade in an unbroken plane in front of the stanchions. Consequently the tendency is away from the vertical and towards a uniform plane, or even a horizontal treatment—for instance, the New York Sun building.

The fenestration is even more influenced by the presence of steel construction. When the weight of the floors is distributed along the walls by joists at short intervals, the architect enjoys a comparative degree of freedom to vary his scheme of voids and solids from floor to floor. When, however, the burden of steel beams imposes massive piers, the windows are of necessity ranged one over another and their variation restricted to their arrangement in groups within the bays. The external steel stanchion, although it may diminish the mass of the pier, or in the tall building even result in a uniform wall plane, imposes by the fact of its presence the same limitation. The incidence of the piers and the consequent thinning of the intervening walls tend to the enlargement of the windows and to the filling the entire width of the bay with a mullion and transome fenestration and to a general lightening of architectural detail. This pier and window phase of architecture is of course no new thing, it bears a superficial resemblance to the structural elements of certain examples of late Gothic work. It is curious to note how in different ages two types were evolved having some elementary affinities with each other by motives and methods so different. In these late Gothic buildings, skill, experience, and native wit in pursuit of an æsthetic ideal produced structures of an airy lightness. There the thrusts and weights are balanced on such a minimum of supporting area, and the structural qualities of stone are utilised in a degree so full and in proportions so far removed from those natural to it, that the result is a veritable triumph of mind over matter. The production of structural steel is also a triumph of mind over matter, but the forms of structural steel, although not the natural form of iron, are forms natural to it. The more scientific skill of our own day, in the pursuit not of an æsthetic but of an economic ideal, has produced a construction parallel in the aspect in question to the mediæval phase cited.

To realise the full significance of the economy in space incidental to the use of the steel stanchion, it will be well to compare an example with a brick pier of similar strength.

Assuming that in the middle of an hotel dining-room, sixteen feet high, it is necessary to support a load of 160 tons imposed by beams on a pier or stanchion. A blue brick pier bearing with safety ten tons per superficial foot would occupy a floor space of sixteen superficial feet and would measure, say, 4 feet square. A stanchion to carry the same weight could be built up in steel to the overall size of 16 inches square, or, including fire protection, say, 20 inches square. The resulting area would be 2·77 superficial feet, or about one-sixth of the area of the brick pier, disregarding the space required for the finish or decoration in both cases.

Supposing, as is likely, that the brick and steel columns were carried up through a number of floors, each of which contributed a share of the load, and that their dimensions were diminished as the load decreased; the result would be that the upper part of the brick pier would in its own substance add a material weight and consequent increase of area to the pier in question, while the additional weight from the stanchions on the upper floors would be trifling, and a further economy falls to the credit of steel.

When we consider the difference in mass between columns of 16 and 2·77 superficial feet, the influence of steel on the architectural treatment of the apartment is obviously radical. Properly considered, the scale is altogether changed and the parts generally lightened. While the dimensions of the brick pier would dictate a pier treatment, the stanchion will permit a shaft treatment, or lend itself to the perhaps unwholesome expedient of enclosure in the form of a classical order.

The Roof.—It cannot be said that structural steel has influenced modern architectural design in its application to the roof to anything like the extent that it has done in the form of the beam and stanchion. Many constructional and other considerations limit the convenient span of a timber floor to about twenty-five feet, and, except on occasions, forbid the use of the arch or vault in its construction; but no constructional reason compels the use of steel in framing our roofs. Our climate and traditions have imposed a pitch of roof which, besides eliminating any question of space occupied, gives such scope for the economical use of timber that timber is structurally capable of spanning openings far wider than our ordinary needs demand, even in public buildings. Nor does the weight of a steel roof differ from one of timber sufficiently to influence design through the creation or solution of any structural problem. Requiring the same covering as a timber roof would, it cannot exert any influence by external expression.

Among the earlier applications of iron to a whole architectural unit were the open roofs of such buildings as railway stations and markets. The demonstration that the constructional elements of iron or steel in these situations are capable of a simple constructional grace has, by creating for at any rate these interiors new standards, done something to slacken the force of architectural tradition in its æsthetic sense. It cannot, however, be said that such a structure skilfully and consistently designed is any departure from architectural tradition in the full sense of the words.

Steel is, and will continue to be, the constructional roofing material of many important buildings, not only because it is incombustible but because it is capable of combination with other incombustible materials, such as concrete, in a way which timber in a roof is not. Setting aside meanwhile the questions of durability and consistency, it is hard to see what influence on architectural design the steel-framed principals concealed behind timber or plaster vaults in many modern churches and halls will exercise, save a certain facility in execution and a tendency in favour of the ceiled and against the open roof.

The Floor and Ceiling.—The immediate influence of steel in the floor is curiously erratic, and that influence is of course exerted on the ceiling below it. We may use slight

steel beams enclosed in concrete, or reinforced concrete itself, in work of a modest scale, and only emphasise the tendency to the familiar flat plaster ceiling, already exerted by the simple joisted floor. We may replace the binding girders in a framed timber floor by steel beams, with the result that we cannot show real timber beams, and although we may hang down a flat ceiling in both cases the reasonable influence is towards a plastered beam treatment. Thus we see the lesser change exerting the greater immediate influence. We may, further, floor our apartment with concrete supported at intervals by steel beams, and by bringing the concrete from a point clear of the top flange down on an inclined plane to the bottom flange, show a concrete ceiling with concrete sided beams. This is a new form demanding a plaster treatment, and often receiving it happily. The general influence of steel alone in the floor is small, but, when accompanied by concrete or any fireproof material, the influence is towards a plaster treatment applied directly to the constructive form. The difficulty, in the case of a fireproof floor, compared with a timber floor, of fixing brackets tends to the omission of heavy cornices and enrichments and to the introduction of a lighter decoration, and the same circumstance exerts an influence adverse to the formation of coves or vaults.

The Tall Building.—There are in the genesis of the skyscraper, setting aside the social conditions which demand it, two essential factors—steel and the elevator. Without iron or steel the twenty- or thirty-story building would be commercially impossible, and without the elevator it would remain unoccupied above the fourth or fifth floor. These buildings are more than towers, on the scale generally understood by the word. They are large city buildings of an ordinary commercial type, which the strength of steel has projected into the air to such a height that they assume the form of towers by sheer greatness of height in proportion to length and breadth, and are vast structures containing hundreds of rooms and an equivalent population. Apart from the creation of this new thing, with its new problems of planning and construction, it is not clear that steel in the skyscraper has influenced the forms of architecture any farther than it had already done in its more modest applications. So many constant influences are at work to preserve the forms of architectural detail from revolutionary as distinguished from evolutionary change that our generation will probably see little of whatever influence this type of construction is ultimately to exert on our art.

As previously noted, to construct a twenty- or thirty-story building wholly in brick or stone on an ordinary scale would result in piers occupying so great a proportion of the area of the lower floors as to make the building economically impracticable. This is a point so essential that at the risk of seeming to insist on the obvious the diagram on the following page has been prepared to illustrate it.

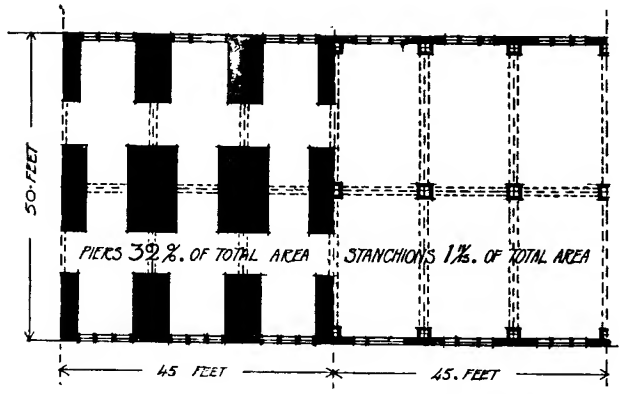
In diagrams I. and II. [p. 696] the respective ground floor areas of the brick piers and the steel stanchions necessary to support a tall, and an ordinary, city building are compared. The building assumed is a commercial one utilised as shops on the ground floor and offices on the upper floors, the depth is fifty feet divided laterally by one row of columns, and from back to front by columns into bays of fifteen feet from centre to centre. In figure I. it is demonstrated that if we attempted a building twenty stories high and allowed for floor and load the moderate average weight of one cwt. per foot, and took into account the brick piers' own weight and that of the outer walls, the resulting piers would occupy 32 per cent. of the total ground floor area.

The same diagram shows that if a similar building were framed in steel the resulting area of the supports at the ground floor, allowing for their casing, would be little over $1\frac{2}{3}$ per cent. of the total.

In the case of the twenty-story building there is no choice but steel, but in the

six-story building illustrated by diagram II. as more within the scope of British practice the brick piers require only $4\frac{2}{3}$ per cent., and the steel stanchions less than $0\frac{5}{6}$ per cent., of the floor area. Here, of course, there is a choice, as the four or so per cent. difference in floor area is not always material. In many cases, however, the advantage to be gained in the reduced obstruction to sight and traffic would tend to the selection of steel.

DIAGRAM SHOWING THE COMPARATIVE AREAS OF THE BRICK PIERS AND STEEL STANCHIONS NECESSARY TO SUPPORT A TWENTY- AND A SIX-STORY BUILDING.



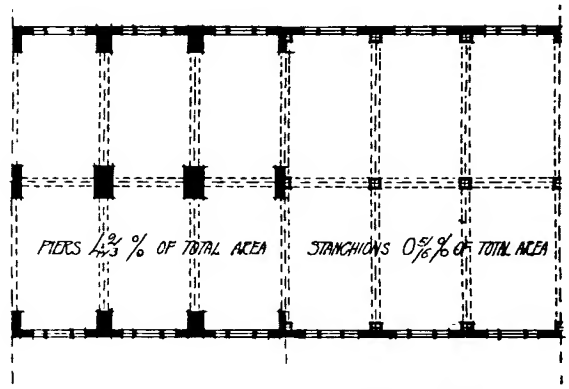
I.

Brick building — Steel-framed building.

PLAN OF TWENTY-STORY BUILDING.

Centre piers 14 × 8 feet.
Outer piers 11 × 6 feet.
NOTE.—The greater part of the area of these piers is required to support the brick's own weight.

Centre stanchions, built of rolled steel within a square 1′ 9″, with enclosure, calculated as 2′ 3″ square.
Outer stanchions ditto ditto but steel within 1′ 5″ square, and with enclosure calculated as 2′ 0″ square.



II.

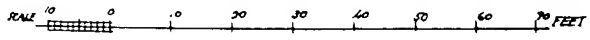
Brick building. — Steel-framed building.

PLAN OF SIX-STORY BUILDING.

Centre piers 5 × 3 feet.
Outer piers 4 × 2 feet 6 ins.

Centre stanchions built within a square of 1 foot, with enclosure, calculated as 1′ 6″ square.
Outer stanchions ditto ditto but steel within 10″ square and with enclosure calculated as 1′ 4″ square.

NOTE.—The floors and their loads and the roofs are taken at 1 cwt. per foot. The weight of the brick is taken at 1¼ cwt. per cube foot and its safe load as 10 tons per superficial foot. The height of the twenty-story building is 220 feet.



The steel frame in certain tall buildings contributes a new structural element to architecture. Hitherto we placed stone upon stone and brick upon brick, trusting with justifiable confidence to the weight of the materials and the moderate proportions of height to base dimensions for stability under great wind pressure, and in the case of such structures as monumental columns trusting to the sole employment of the heavier materials. Our buildings were laid upon the earth and built without vertical bond save the adhesion of the mortar. The tall building has in cases exceeded the old moderate proportion of height to base, and with its lighter walls has not the old stability of weight. It seeks stability by a method new to civil architecture. From roof to foundation the parts are riveted together into one continuous structure, attached to its foundations, buried deep, and anchored to the earth.

It would be rash to assume that the tall buildings of America, or even such high buildings as our own laws permit, or may permit, are a permanent institution. They are not a natural human need, and it is to be desired for hygienic, if for no other reasons, that the already great congregations of men gathered together for the space of a business day should not be further increased. Improved means of locomotion have already gone far in promoting men's dispersal over wider areas for residence, and it is to be expected that the improvement of other means of intercourse will diminish the necessity for the close congregation of men for commerce, and at the same time diminish the concurrent cause of high building, the high site value. We should therefore seek the

influence of steel, more on planning, construction, and architectural detail of buildings of a normal scale.

In the employment of structural steel with its active qualities, in conjunction with the passive qualities of the older materials, there is the undoubted loss of a measure of structural consistency. Steel, however, must be used on occasions for reasons beyond our control, and it is not good that we should regard the coincident loss of consistency in an attitude of proverbially vain regret. Regret in concrete matters leads nowhere; we cannot stem the tide of steel, and it is not clear that it is on the whole a tide of evil. In all change there is gain as well as loss, and we should rather seek and cultivate the good in the principles of design emphasised by steel, for in no other way is progress possible. Much was lost when Greek Art was swamped in the flood of Roman Art, but the Romans led architecture into wider spheres. Much was lost to Art in the fall of the Roman Empire, but a new and purifying influence led to the triumphs of the Middle Ages. The egg of evolutionary sequence was broken by the Renaissance, but a rich omelette resulted for Western Europe.

The Shop Front.—The blame of the paradox of the shop front must, after the economic causes, be laid on iron and steel. The city proprietor pays for a property a price which requires the utmost rental return; the shopkeeper, to whom he lets the ground floor in order to meet this rent, requires under the stress of competition the utmost width of shop window possible. Differing occupations, climatic and other reasons require that the upper floors should be walled in stone or brick. Hence we have a substantial stone street building standing apparently on little more than sundry sheets of plate glass and thin brass bars, the real construction of steel beams and stanchions being concealed by wood, terra-cotta, granite, or what not. Much ingenuity has been expended (largely in vain) to give this anomaly constructive, or apparent constructive, consistency. Sham flat arches of impossible span, and sham segmental arches with sham abutments of ridiculous insufficiency, meet us everywhere in streets, and only add to the incongruity. No application of present-day architecture can conceivably solve the problem. Here, therefore, is a chance to express our steel, and possibly the increasing use of steel will lead to its being taken, and the anomaly being at least minimised.

It in no way affects the question that in certain cases shop fronts in harmony with the remaining architectural composition have been and are being built; these exceptions prove the rule, and they can only occur on occasions when commercial considerations do not dominate the situation, and the necessary width can be appropriated to the piers.

Reinforced Concrete.—In reinforced concrete we have a material containing structural steel in a form utterly different from the structural steel hitherto considered. Instead of scantlings of steel capable alone of the structural needs of their position, we have scantlings and forms of steel incapable alone of any structural function, combined with concrete in a manner calculated to bring into play a high degree of their potential strength, and to contribute to the combination the tensile strength which concrete alone lacks. While steel in a steel frame construction forms merely the skeleton of the building, and possesses certain active qualities incompatible with its external clothing, reinforced concrete is, in comparison, a homogeneous material, not only capable of forming the whole building but capable also of external expression in its own material.

Reinforced concrete has already up to a point proved its fitness—in bridges, warehouses and other buildings; and, assuming that the lapse of time confirms its fitness and proves its durability, its influence on architectural design may within limits be very great. The sphere of influence possible to reinforced concrete must, however, be delimited by its quality. It is what may be termed a rude material. One cannot conceive a Parthenon or a triumphal

arch of reinforced concrete, even if veneered with marble. Reinforced concrete does not lend itself to clothing in other materials with the readiness of brick or stone, and, supposing a monumental building were erected with it, faced with finer materials of sufficient thickness to secure for themselves the desirable degree of permanence, the structure would become by that fact something more, or less, than reinforced concrete.

Within these limits the plastic and monolithic character of reinforced concrete threatens to wield a vast influence on architectural forms. With reinforced concrete the structural meaning of the arch disappears, with its voussoirs and its orders of voussoirs, and all their innumerable forms and mouldings, and the living form which moulded the development of architecture for fourteen centuries becomes a dead form. The logical coincidence of void over void and solid over solid is removed so far as a building material can remove it.

The lintel too, owing to the monolithic quality of the material, loses its meaning and expression, and the column, while retaining both, loses the traditional capital and base in their original structural capacity. The cornice, necessary as ever in its sheltering junction, must undergo great change when in place of being built stone on stone, and balanced on or corbelled from the wall, it is cast in one piece with the rest of the structure.

Many, or perhaps most, of the other forms of Western architecture have constructive meaning incidental to the older materials and inconsistent with the new material. We may, therefore, expect that reinforced concrete will, within its province, eliminate the non-essential and mould to its manner the essential of the old forms.

Minor Effects on Practice.—The use of iron and steel construction compels a more final determination of the design on paper than a brick or stone construction. In the older construction the architect had a greater freedom to alter and amend the work during its progress as the initial ideas elaborated and developed in his mind—an important matter to men of a certain temperament. In the newer construction this facility is restricted; for example, to omit or remove a stanchion from a steel-framed building involves a far extended derangement of an exactly calculated structure, while to remove a pier in a brick or stone building and substitute a beam is a much simpler matter. Again, a deviation necessitating the cutting of timber beams or joists is easy compared with a similar operation on steel beams. Timber or stone can be delivered at the work in full dimensions, there to be shaped for its position at the last moment; but steel must leave the smith's shop prepared exactly for a predetermined situation. The need of precision and foresight on the part of the architect is accentuated by the use of steel and by the speed at which a steel-framed building is erected. When a twenty-story building can be framed up in less than three months, and when the lower floors are being finished before the steel frame has reached the roof, the architect may not study his details with the old leisure.

Undoubtedly architecture has benefited at some hands by the time for study allowed by the older construction, but it would be foolish to leave unconsidered the counter-balancing advantages. Precision and foresight are virtues, and if steel is a discipline to inculcate them the fact of this influence must be placed to the credit of steel.

Some Minor Uses.—The cumulative influence of iron and steel in their many minor applications is considerable if we compare our own time with, for instance, the eighteenth century. The choice between timber sashes and casements and iron casements with the heavy sash bars of the former, and the lighter bars or leaded glazing of the latter, makes a difference to the architectural feeling of a building so marked that the general design must to a large extent lead up to the type of glazing employed. As wrought iron in the casement compels very light bars or leaded glazing, it appropriates a portion of this influence as its own. With structural steel open wells without pillar supports, and open flying stairs, can be arranged with

increased ease, and iron spiral stairs and iron galleries can be devised in a space much less than if timber or stone were used. These and numerous applications of iron such as straps, hangers, and knees, tend to slacken the rule of the old grammar of planning in some of its details. Steel, however, enforces a grammar of its own which is not perhaps in principle very far removed from the old.

Present Influence.—Although structural steel is often clothed in the familiar architectural forms, it does not, except so far as already indicated, directly influence them because it is *steel*; but it does influence architectural form in the incidence of its enclosure. Steel, and the materials in which it must in ordinary cases be enclosed, are things so different that they cannot be built up together, and the old forms are less convenient clothing for them than thin slabs with their appropriately simpler architectural treatment. Steel will also influence architecture more indirectly through the changed proportions it effects. As the beam gives increased span and compels a trabeated form, and as the stanchion tends to increase the proportional height and diminish the absolute area of supports; and as the steel frame gives us buildings of a hitherto unparalleled height, borne on bases of a previously impossible area; it is through these strange proportions that it will further influence architecture, and not because it can embody a steel architecture or alter the many essentials which are the creation of other influences than those of materials.

A building may be framed in steel, but it presents to our eye the same brick or stone exterior and the same plaster, wood, and marble interior as if it were constructed in the older manner. The influence of the texture and colour of the brick and stone remains on the forms they are required to assume, although their structural influence may be undermined by steel. The close grain of the marble responds to delicate gradation of surface as before, and the influence of its figuring towards its exhibition in plane rather than heavily moulded or sculptured surfaces remains, perhaps augmented by the presence of steel. The influence of the surface and substance of plaster remains on the forms it embodies although the changed method of its application to steel construction exerts a coincident and conflicting influence. The influence of our tile, slate, or lead roof coverings remains little affected. We cannot build our walls, cover our roofs, or line our interiors wholly in steel; steel is not sufficiently durable for convenient exposure, it conducts changes of temperature more than our ideas of comfort would endure. Our ordinary needs in the matter of ventilation are founded on the use of porous building materials, which, of course, steel is not; and if we attempted to live in a steel-clad house startling effects in these and other respects would ensue.

We may dismiss the idea of a metal architecture until we have a metal of the durability of copper, the strength of steel, and of the porosity and other passive virtues of stone, and nothing but an occasional building for some special purpose can be wholly constructed in iron and steel. Meanwhile the old and the new must march together. The old must lengthen its stride to its utmost, but to that utmost steel must confine its own gait.

Steel will exert a new or at least stimulate an old influence in the disruption of the structural material and the external form. When a building is constructed wholly in marble or wholly in stone, the columns, bases, capitals, cornices, archmoulds, and other traditional forms retain their full significance, both structural and æsthetic; and even when the interior of a wall is built in stone, and the external forms in marble, the structural incidence of these materials being identical no new influence is thereby set to work. When, however, the heart of the wall is of brick, the small dimensions and rectangular form of the brick lend themselves to the building in of narrow bands, and to the facing of the wall with thin slabs of the finer materials, and so to an architecture of simple planes where the effect is sought in the general form of the masses and in the intrinsic beauties of the materials in a greater degree,

and in moulded or sculptured forms in a less degree, as in Byzantine and some phases of Italian Art.

This influence is accentuated by steel construction, when it becomes impossible to build the clothing material in with the structural material, and its full force is probably not yet felt, but must doubtless in our interiors tend towards marble, veneer, mosaic, and painted and plaster decoration.

The use of the complete steel frame is so far, and is likely to remain for the present, restricted to well-defined limits. The chief of these is the city site of high commercial value on which it is desired to build, for example, an hotel, or a large retail shop. In both instances steel can contribute economy in space and speed in construction, and if not fireproof it has at least the parallel quality of incombustibility. To the warehouse and factory class of buildings steel contributes not only the virtues just referred to, but the strength and elasticity demanded in buildings of many floors bearing heavy loads and moving machinery.

On the other hand steel construction is not likely to invade ecclesiastical architecture or, excepting very large town houses and flats, domestic architecture; nor is it likely to invade any class of rural architecture save barns and the like. In point of fact it is not used except where problems of economy of space, money, time, fire risk, or all four compel us to utilise its one good quality, namely strength, with its concomitants, including incombustibility. In the vast majority of buildings these problems do not present themselves in a form acute enough to tempt us to use a material, or at least to adopt a complete construction in a material, so susceptible to corrosion and so unsuited to exposure as steel.

However restricted in sphere the influence of steel on our current architecture may be, steel must have a far-reaching and adverse influence on its permanence. If stone and brick piers are replaced by steel stanchions, and walls are built thinner in consequence, we cannot expect the buildings of our day to endure as the monuments of antiquity have endured. No doubt with care and attention the steel work in a modern building may last for a few centuries, but let us consider what will be the state of a great building framed in steel to-day when it is the age of, say, the Pantheon.

Western history gives no grounds for the supposition that one *régime* can last for such a period of time as the Pantheon has existed. The Pantheon is what may be termed a permanent building containing in its walls and roof nothing less enduring than concrete, masonry, and brickwork, and these in great mass, and in consequence it has survived and can survive long periods of neglect and all manner of abuse short of demolition.

In the same manner such a building as an early French church, with its massive walls, stone domes, and external stone roof, will survive the same vicissitudes of fortune. It seems irresistibly clear that a steel-framed building, or a building constructed largely of steel, will have ceased to exist long before it has reached the nineteen hundred odd years of the Pantheon.

Steel as we know it requires care for its preservation, and care it will not get for more than two or three centuries at a time. New developments or fireproofing science may preserve it from fire, but no human skill will preserve it from the neglect and violence of recurring revolutionary periods which no architectural monuments will endure, save such as are built in great masses of inert materials. Neglect and violence are things which steel will *not* endure, and when we consider its perishable nature and other unstable qualities all evidence seems to point to the life of structural steel, even with care, being limited to two or three centuries.

Supposing one age of architecture adopted a material so perishable that the lapse of a few centuries swept its examples off the face of the earth, it does not follow that the art and

material presumed would cease to have any influence on architectural evolution. The influence of the architecture of one age on the architecture of the succeeding ages is twofold, the first being its contribution of form and method handed down by tradition, and the second, the direct example of its surviving monuments to the remoter ages. In the first aspect steel will be the means of contributing much to architectural tradition, but in the second aspect it will not be an influence at all.

CONCLUSION.

It is hardly possible to appreciate the present influence of iron and steel without attempting to observe the trend of that influence, and consequently speculating on at least some aspects of its future extent.

It should not be presumed that a material with so many unstable qualities has come to stay for any considerable time as a structural building material. Steel at this moment, whether in the complete frame or the beam over the shop window, is an economic necessity, but the economic conditions which under our social conditions have created that necessity are not permanent, but are and have always been changing.

No conceivable change in social conditions could diminish the utility of the Forth Bridge or render its erection possible in any material other than a metal of great strength. Even if steam traction became obsolete the new traction would still require the great steel- and glass-covered area of the railway station. No very great change in social conditions or public sentiment, however, is required to create a revolt against tall buildings, or to remove the necessity for more than four or five floors in all ordinary civil buildings, and with the higher floors would disappear, if not steel construction altogether, at least the heart of the problem of steel construction.

However that may be, the ingenuity and effort spent in attempting the solution of the problem cannot be spent in vain. Every honest effort, successful or unsuccessful, equips the author with knowledge and experience, and braces him for further and higher attempts. Present imperfection is a necessity to progress. The effort to overcome the æsthetic limitations and dynamic difficulties of the round arch so stimulated and quickened the wit of the race of Mediæval builders that the solution in the pointed arch covered our and other lands with architectural glories for four centuries. In the same way, the efforts of our generation to overcome the incompatibilities of steel cannot be in vain. The problem contains the very elements of architecture, and is therefore capable of leading to a forward movement in our art comparable in some degree with the active periods of architectural evolution.

In all probability the use of structural steel is a passing phase, a phase not to be measured by a few years but possibly by generations; but still a phase, and not a permanent institution, as the use of brick or stone. To bear a load sufficiently but not wastefully, to carry it to the earth directly, to balance a thrust exactly, to provide for every stress with skill, to place solid over solid and void over void, and to plan and construct in simple and regular forms, are principles good for all, and common to all art and material. These principles steel requires and imposes in a degree so intensified as to make them almost peculiar to itself. They are the spirit of steel construction, and are as eternal as is Art. The body of steel may pass away, but the spirit will survive to quicken and rejuvenate; and who can say but that our twentieth-century architecture is in need of a purifying and co-ordinating influence?

TEST OF REINFORCED CONCRETE ROOF.*

By J. Ernest Franck [*A.*].

THE Local Government Board, in giving their sanction to a loan for the erection of the Public Baths and Washhouses, informed the Hammersmith Borough Council that such sanction could not be given for any work in the walls and roof of the first-class bath which involved the use of reinforced concrete, but that the Board would be prepared to consider the matter further if the Borough Council would undertake to test one or more ribs after erection in the presence of one of the Board's engineering inspectors, such test to be carried out under the supervision of an independent expert.

The Hammersmith Borough Council wished to take up the loan, and I was instructed to make the necessary arrangements to test two of the principals. In conjunction with Mr. W. G. Kirkaldy it was decided that the load should be applied in as near as possible a manner as the ultimate load which was to be borne by the principals, and for this purpose cradles were slung from two of the principals in the manner and at the points shown in the diagram.

The ultimate weight of the roofing materials was ascertained from weighing various specimens, as set forth in the table showing the dead load on one side of the principals. The manner of applying the load was by means of bags filled with ballast, each weighing one hundredweight. These bags were all checked in weight by the clerk of works, and a large number of the same were taken haphazard and checked in weight by Mr. Kirkaldy; it will be also noted from the drawing that the first weights given are those of the cradles, which were also verified.

The deflections were observed by Mr. W. G. Kirkaldy from the corridor shown on the right hand, or south side of the principals, by means of a cathetometer sighting on to a mirror having crossed hairs on its face and suspended by two wires which were attached to the upper part of the rib and held in position by loose rings. Separate readings were taken by the Local Government Board engineers and myself of lever indicators fixed, at the various points, on to bearers bolted to the staging used for carrying the centering employed to erect the ribs; but the movements of these levers must be disregarded, as several of the ropes suspending the cradles stretched to such an extent as to displace the lever indicators, and when reset it was noted that the effect of moving the large weight used for testing from the staging on to the cradles caused the former to spring.

It will be seen that there was no spread at the abutments, as shown by the readings taken by means of a horizontal wire fixed at one end carried over a pulley with a weight attached at the other end of the wire; the readings of the pointer attached to the weight under the column J show that no movement took place. The roof was superloaded to an extent of fifty per cent. of the permanent dead load; the greatest deflection measured was only one twenty-fifth part of an inch, and after the removal of the load the roof principals were found on testing to have recovered their original form; in fact, the reading on the cathetometer was above zero, the reason for this being that the cathetometer was set to zero after the cradles were hung, but it showed conclusively that there was no permanent deflection.

The reasons for using reinforced concrete in the principals and purlins of this roof are as follows:—

The greater portion of the length of the south wall of this part of the building is practically a free structure from the ground-floor level, and I was advised by Mr. Gifford Read, my consulting engineer, that as I wished to construct a roof of a semicircular section, and without tie-rods, the roof trusses if in steel should be rigidly connected to steel stanchions built into the walls, carried down to the ground-floor level, and bolted to large stone or concrete bases.

I also required that the face of my bath wall should have no projections in order that the full length could be utilised for dressing-boxes. It will be seen from the sketch diagram that if no projections are allowed on the inner or bath side of the wall, neither could any projections be allowed in the corridors at the sides of the bath, which were to be used as exits when the premises were licensed for music and dancing; although the use of the corridor on the north side was not pressed by the Council.

To have used steel stanchions meant that projections must come on one or other of these faces; but by the use of reinforced concrete the stanchions or continuation of the main ribs were split at the level of the roofs of the corridors and carried across the same in an arch formation, and continued to the ground-floor level on each side of the corridor, and joined again beneath the ground floor; thus the lower portions of these stanchions became box-shaped.

The stanchions on both sides of the bath are brought within one inch of the inner face of the walls and covered with tiles; the outer sides of the stanchions on the south side, where the main wall is next Scott's Road, are brought within 4½ inches of the external faces of the buttresses.

Another of my requirements was a flat soffit to the side cantilever galleries, and this necessitated cross braces in the space between the gallery gang-

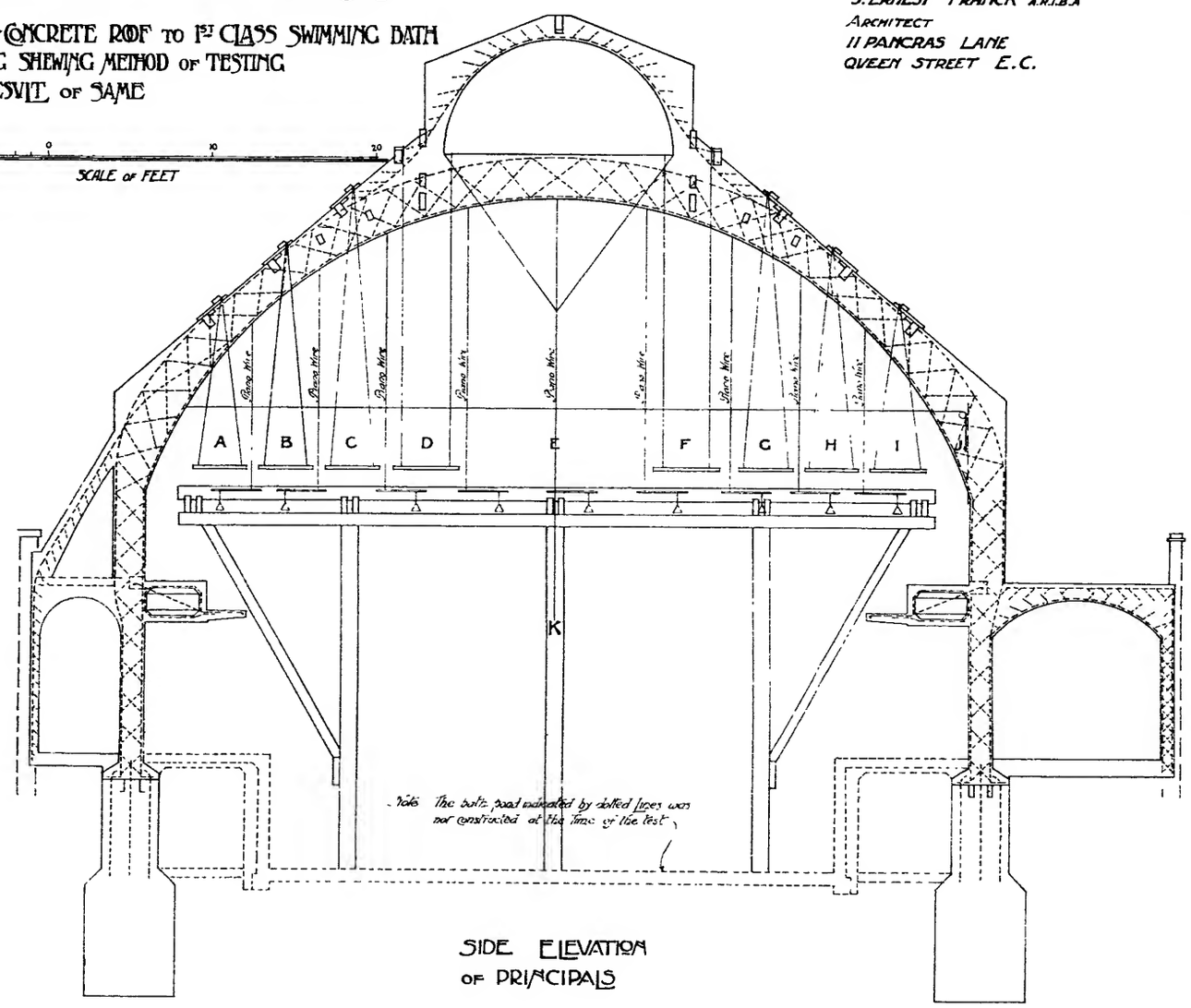
* These notes and the accompanying sheet of illustrative diagrams have been received for publication in the Journal through the good offices of Mr. H. D. Searles-Wood [*F.*], Hon. Secretary of the Reinforced Concrete Committee.

THE BOROUGH OF HAMMERSMITH PUBLIC BATHS & WASH-HOUSES

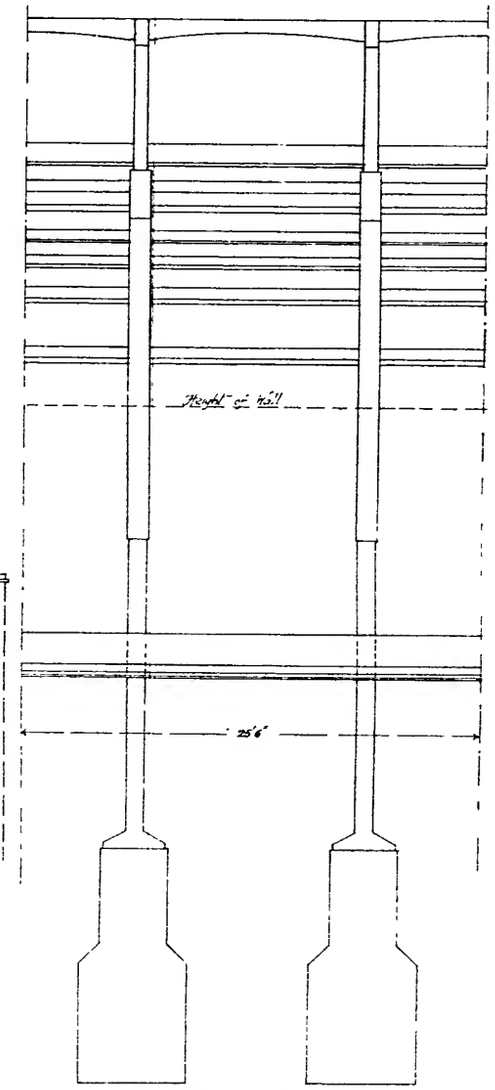
FERRO-CONCRETE ROOF TO 1ST CLASS SWIMMING BATH
DRAWING SHEWING METHOD OF TESTING
AND RESULT OF SAME

J. ERNEST FRANCK A.R.I.B.A
ARCHITECT
11 PANCRAS LANE
QUEEN STREET E.C.

10 5 0 10 20
SCALE OF FEET



SIDE ELEVATION
OF PRINCIPALS



CROSS SECTION
THRO PRINCIPALS

TABLE SHEWING LOADS APPLIED TO ROOF & DEFLECTION CAUSED BY SAME

	A			B			C			D			E	F			G			H			I			J	K
	W	T.W.	D	W	T.W.	D	W	T.W.	D	W	T.W.	D	D	W	T.W.	D	W	T.W.	D	W	T.W.	D	W	T.W.	D	D	D
	6 13		1	5 31		1	5·508		1	0 65		1	1	0 65		0	5 508		0	5 31		0	5·13		3	0	0 inches
	5·00	10 13	1	5 00	10·31	1	8 000	13 508	1	10·00	16 65	1	0	10 00	16 65	0	8 000	13 508	*3	5 00	10·31	1	5 00	10 13	3	0	008
	5 00	15 13	0	5·00	15 31	2	8·000	21 508	1 5	10·00	26·65	1 5	1	10 00	26 65	0	8 000	21 508	0	5·00	15·31	2	5 00	15 13	1	0	016
	5 00	20 13	1	5 00	20·31	1 50	8·000	29·508	2	10 00	36 65	2·0	1	10 00	36 65	*20	8 000	29·508	1	5 00	20·31	1	5 00	20 13	3	0	024
	1·00	21 13	2	1·00	21 31	1 50	6·000	35·508	2	8 00	44 65	3 0	1	8 00	44 65		6 000	35 508	0	1 00	21 31	2	1 00	21 13	3	0	028
Total load on each side in Tons				6 TONS 2·59 CWTS.													6 TONS 2·59 CWTS										
	Extra load applied on this side of principals only																										
	4 00	25 13	1	4 00	25 31	0	4 00	39·50	5	4·00	48·65	2 5	105			0			1			3			1	0	032
	4·00	29 13	3	4 00	29 31	3	4 00	43 50	1	4·00	52·65	0	0			1			0			1			3	0	032
	4·00	33 13	2	4 00	33 31	1	4 00	47·50	0	4 00	56·65	1	1			1			0			3			2	0	032
Total load on each side in Tons	4 00	37 13	3	4·00	37 31	1	4 00	51 50	1	4·00	60 65	1	105			1			1			2·5			1	0	032
				9 TONS 6 59 CWTS													6 TONS 2·59 CWTS										
	Extra load applied on this side to equalize load on principals																										
										4 00	48 65			4 00	39·508		4·00	25 31		4·00	25 13						032
										4 00	52 65			4 00	43·508		4 00	29·31		4 00	29·13						036
										4·00	56 65			4·00	47·508		4·00	33 31		4 00	33 13						036
Total load on each side in Tons										4 00	60 65			4 00	51·508		4·00	37 31		4 00	37 13						040
				9 TONS 6·59 CWTS													9 TONS 6 59 CWTS										

* Levers reset owing to cradle displacing sense.

Note — W — The weight of applied loads in hundred weights, the first weight given being the weight of the cradle
T.W. — Total weight of cradle and applied loads
D — The deflection of the levers in 100th parts of an inch
The movement of the levers may be disregarded as they were more affected by the spring of the staging than the movements in the roof principals
K — The deflections observed by Messrs Kirkaldy & Son, by means of a Cathetometer to one tenth millimetre and the calculated equivalent given above in inches

DEAD LOAD ON ONE SIDE OF THE PRINCIPALS

WEIGHT OF SLOPING PORTION OF ROOF					WEIGHT OF SKYLIGHT & LEAD FLAT					
DESCRIPTION	LENGTH	WIDTH	WEIGHT PER FOOT SUPER.	TOTAL WEIGHT.	DESCRIPTION	LENGTH	WIDTH	WEIGHT PER FT SUPER OR FT RUN		TOTAL WEIGHT
Ferrules	29'6"	19 0"	lbs 2 0 ozs		1" boarding	25'6"	1 9"	lbs 2 8 ozs	super	111 12
1" boarding	-	-	2 8		lead on flat	-	2 0"	6 0	do	306 0
felt	-	-	2		lead apron	-		2 8	foot run	63 12
battens	-	-	1 8		5" ridge	-		5 0	do	127 8
slates	-	-	2·2		steel frames		height			
fibre ceiling		-	4 0		iron sash lights	-	4 0"	6 0	foot super	612 0
Keenes Cmt					wood to eaves	-		3·12	foot run	95 8
fixing		-	2 0				Number			
	25·0"	19'0"	14 4	6 cwt 1 qr	Fixing bars	10 0"	16	4 8	do do	630 0
					Glass	25 6"	with 10 0"	4 0	super	1022 0
Load distributed over 3 panels A B C also at C.H.I				61 64 cwts	Lead ridge	-		7 8	run	191 4
					Keenes Cmt	-		1 0	do	25 8
										3183 4
Weight of Sliding Inner Light										
			lbs oz	lbs oz	Load Concentrated at the point D also at F					28 42 cwts
Iron & glass	25'6"	9'0"	15 0	3442 8						
Load distributed at the points also at				C & D F & G	30 75 cwts					

Similar loads applied at I, M, G, F — Load at the cradle

A	$\frac{61\ 64}{3}$	=	20·546 cwts
B	$\frac{61\ 64}{3}$	=	20·546 "
C	$\frac{61\ 64}{3} + \frac{30\ 75}{2}$	=	35 941 "
D	$28\ 42 + \frac{30\ 75}{2}$	=	43 815
			120·848 cwts

6 Tons 0·848 CWTS.

C F KELL & SON, PHOTO LITHO, 2 & 3 TOTHILL STREET WESTMINSTER

way floor and such soffit. This space I proposed to use as an air duct for heating and ventilating the building, and the braces before mentioned would have impeded the flow of air.

I also considered that, even if the roof trusses had been carried out in steel and covered with two inches of some non-conducting external coating, such a structure would not be of so fire-resisting a nature, and certainly would not be "building in truth," whereas the ribs now showing in the ceiling of this bath are true structurally.

With the roof trusses in steel these must be painted every few years, but with this material there is no maintenance. I do not think the initial cost has been greater than a steel roof truss if the extra works required by the Local Government Board are taken into consideration; such works comprise the buttresses to the principals on the north side of the bath, the continuation of the reinforced concrete as a secondary truss round the skylight, and the reinforcing of the concrete piers on which the stanchions stand with round iron bars hooked over into the feet of the stanchions.

In designing the roof truss the calculations for the reinforcement were made on the supposition that these arched ribs stood independently on the ground-floor level; and, although the weight of the galleries was taken into account, the support such galleries afford in stiffening the main stanchions was neglected.

Taking the concrete of the arch ribs and purlins at $1\frac{1}{3}$ cwt. per cubic foot, and the roof covering at $\frac{1}{6}$ cwt. per square foot, it was calculated that the weight on the half-arch was equivalent to a horizontal thrust of 14·2 tons and a vertical pressure of 18·9 tons.

The wind pressure is calculated at a rate of 50 lbs. per square foot of vertical height of roof, and the proportion of the total wind pressure normal to the surface and acting at the crown of the arch is equal to 2·6 tons.

The maximum bending moment therefore on the corner of the abutment of the arch rib is equivalent to 150 foot tons; and as there is no abutment on the south side to oppose the horizontal force this must be resisted by the arch itself, which must be strong enough at the corner to resist bending as a beam.

The steel bars shown on the diagram of the test of the roof are more than ample to meet the horizontal force at such point, but at the point where the arch rib springs from the stanchion the dimensions of the same are reduced in comparison with that of the concrete at the corner of the abutment; and although the bending moment is less, yet the reduction of the effective depth of the beam requires the above number of bars to be included in order that the stress on the steel be not greater than seven tons per square inch.

The weight calculated to be borne by any one of the stanchions at a point about one foot below the underside of the gallery was a maximum of 32 tons, the section of the majority of the stanchions at such point being 1 foot 5 inches by 1 foot with six $1\frac{1}{4}$-inch bars embedded in the concrete.

Two columns, 8 feet long and 10 inches square, made from the materials employed and having four $\frac{1}{2}$-inch bars, were tested to destruction by Messrs. David Kirkaldy & Son: these columns were eight months old, and crushed at 99 and 107 tons respectively.

The concrete used in the work was composed of clean sharp broken flint gravel of various sizes between $\frac{1}{8}$ inch and $\frac{3}{4}$ inch, mixed with sand and cement in the following proportions:—

Gravel	27	cubic feet
Sand	$13\frac{1}{2}$	,, ,,
Cement	$6\frac{1}{2}$	cwt.

This results in a mixture of approximately four to one.

The cement supplied was required generally to conform to the British standard specification, with the following alterations to such specification:—

To have no residue	on a sieve of	5,776	meshes	per sq. in.
Not more than 5 p.c.	,,	,,	14,400	,,	,,
,, ,, 14 ,,	,,	,,	32,400	,,	,,

And the test for tensile strength when mixed with sand in the proportion of three parts of standard sand to one of cement by weight was to be at—

7 days	from gauging	200	lbs.	per square inch
14	,,	,,	275	,,	,,
28	,,	,,	350	,,	,,

The expansion under Le Chatelier's apparatus was not to exceed—

2 millimetres	after	24 hours'	aëration
1 millimetre	,,	7 days'	,,

Cubes of concrete, 6 inches square, made from the materials employed were crushed by Messrs. Kirkaldy & Sons in May last. Ten specimens were experimented upon, with the following average results:—

Date when made	Weight dry, in lbs.	Crushed, at tons per sq. ft.
No record	18·32	143·0
19th November 1906 . .	18·15	142·7
10th January 1907 . .	17·92	104·2

One specimen crushed at 170 tons per square foot.

The steel bars were required to bear a tensile stress of not less than 28 or more than 32 tons per square inch without breaking, and to elongate at fracture 20 per cent. in a length of 8 inches.

The average yield point of the specimens was 22·2 tons per square inch, and the average maximum stress borne was 32·3 tons.

The reinforcement of the stanchions below the gallery consisted of six $1\frac{1}{4}$-inch bars, above the gallery of nine $1\frac{1}{4}$-inch bars, which were carried round the principals, with the addition of two

1-inch bars extending for 18 feet at the crown of the arch; that to the buttress on the left side of the diagram consisted of two $1\frac{1}{4}$-inch bars, and on the right side of four 1-inch bars carried over the arches extending across the corridor.

There were also two $1\frac{1}{4}$-inch bars carried round the secondary trusses supporting the skylight.

The average overlapping of the bars was 6 feet, no welding being allowed.

The large purlins were reinforced with two $\frac{1}{2}$-inch bars, and the smaller ones (for carrying the fibrous plaster ceiling) with one $\frac{3}{4}$-inch bar.

The side cantilever galleries were constructed with brackets opposite to the principals, having 1-inch diagonal circular bars carried across the air space, and reinforced between these brackets with $\frac{1}{2}$-inch bars spaced 15 inches apart. Two $\frac{1}{2}$-inch bars fixed longitudinally between these brackets were placed next the wall and also beneath the step formed in the gallery; in addition round rods $\frac{5}{8}$ inch in diameter are placed on the outer edge and all round the gallery, also a 1-inch bar in the wall at the upper side of the same, and around which the 1-inch diagonal bars are hooked.

The reinforcement in the concrete bases built by the general contractors below the ground-floor level consists of nine $1\frac{1}{2}$-inch diameter round bars.

In work of this character too much stress cannot be laid on the supervision of the workmen engaged, and that such was exercised by the clerk of works is shown, I think, by the result obtained by the test.

LIME BÉTON.

MR. R. P. SKINNER, the American Consul-General at Marseilles, gives the following description of the preparation and uses of lime béton in and about the neighbourhood of Marseilles:—

Lime béton has been in longer and more general use than cement concretes. It was a first-class material when made with ordinary quicklime, and since hydraulic lime has been used it is better. It is a cheaper composition than cement béton or concrete, easier to work, and if the initial load be not too great it is for nearly every purpose just as good. A good lime béton can be obtained by mixing mortar and stones, gravel or cinders, mortar and good-sized stones making the best composition. Probably one-half of the houses in Marseilles have been built of this material, and thousands of the older buildings, many hundred years old, are held together by ordinary lime. Walls built of quicklime béton must be laid up slowly, but with hydraulic lime béton they can be erected as fast as masons can work. The solidity of lime-béton construction is shown by the sea walls and docks in Marseilles, where masonry of this kind may be seen both above and below sea water, the most difficult test to which building material can be subjected.

The lime is weighed out to the cubic unit of sand, and the two dry mixed. Water is added slowly with a sprinkler and the plastic consistency tested by forming a ball with the hand, which should exude a slight moisture, and being laid aside should neither flatten nor crack open. A mortar of 500 kilos. (1,102 lbs.) of lime to 1 cubic metre (1·308 cubic yards) of sand, mixed and beaten dry, has more resistance than an equal quantity of pure lime. A house-building mortar contains from 440 to 551 lbs. of lime per cubic metre (1·308 cubic yards) of sand. This is sufficient also for small arches and viaducts. For tunnels, foundations, and viaducts of considerable height the proportion of lime is increased by 110 lbs., while for important arches and dams subjected to pressure the amount of lime per unit of sand is from 661 to 771 lbs.

Stones or other cheap material are mixed with the mortar, thus constituting the béton. Cinders, coke, and furnace slag may be substituted for stones in ordinary house and wall work. If broken stone is used the pieces are from 0·78 to 2·36 inches in length. The proportions are usually two parts of stone for one of mortar for work under water; in open-air work the proportion of stone may be increased. For open-air work a coker or mould is built, into which the béton is poured in horizontal layers from 8 to 12 inches thick and then rammed. A layer of béton cannot be distributed above another which has already set until its surface has been picked and washed and finally given a coat of cement and water of the consistency of cream.

In both France and Germany a light-weight béton is made of cinders. Buildings several stories in height can be erected of this cinder béton, which can be laid as in the other cases cited or treated like armed cement. One-story structures require no anchorage bars. Several very large factories at Lyons have been built of this béton. Sometimes the cinders are worked into blocks and laid up like cut stone. In all cases the cinders must be screened and then mixed at the rate of 1 cubic yard of cinders to $\frac{1}{2}$ cubic yard of hydraulic mortar, composed of 440 lbs. of hydraulic lime to 35 cubic feet of sand, or the lime can be replaced by 330 lbs. of Portland cement. The proportion of mortar can be shaded slightly if the materials are good.

The striking economies effected in France are obtained by the free use of cheap local material, whatever it may be, and by the equally free use of lime where cement probably would be used in the United States. If the work be carefully planned and performed, hardly more lime is needed than if cement were used; and whereas a good Portland cement now costs from $10.22 to $10.60 per

ton in Marseilles, an equally good hydraulic lime costs but $6.35 per ton. In the rural districts the peasants use any kind of lime, and they build houses which last hundreds of years. Buildings constructed with béton can be completed by a coating of lime or cement mortar, which, being laid on and lined, gives a finish that loses little by comparison with cut stone, and effectually prevents the absorption of moisture.

THE PUBLIC AND ARCHITECTURE.

At the International Congress of Architects last year various means were suggested of interesting the public in architecture, of rendering them sensible of the importance of having beautiful buildings in their midst, and of inculcating in the rising generation some intelligent understanding of what architecture is. A Paper contributed by some Spanish members of the Congress recommended the compulsory provision in primary schools of photographs or drawings showing the best existing specimens of architecture, with indications of style and epoch; the inclusion of æsthetics and of the history and theory of the fine arts in the general curriculum of schools; instruction in elementary architecture in schools of every kind; the establishment and endowment of chairs of architecture, and cheap excursions to notable buildings under the guidance of an architect who would lecture on the monuments visited.

The Press, too, we think, should be a powerful auxiliary in awakening and sustaining the interest of the people in the architecture of their cities. Occasional criticism of architectural works in the daily Press by a competent architect-writer would help on the movement considerably, and be of undoubted educative value. Perhaps, too, a little of the interest lavished on the painter, the sculptor, the musician, and the man of letters might be extended with advantage to the not less gifted architect.

Professor Aitchison, R.A., in one of his felicitous Presidential Addresses at the Institute, insists that concern for the architecture of one's country is a patriotic duty. "The poetry," he says, "the eloquence, and the music of the past become the cherished possessions of all civilised nations. The statues, the bas-reliefs, the engraved gems, the coins, the plate, and the jewellery are spread over the civilised world. The architectural monuments alone point out the places where the great life of the nation once throbbed, and enable us to penetrate the thoughts that created them and to see the skilled handiwork of the people. . . . It is only by the people cultivating a knowledge of architecture, and so appreciating its beauties and emotional qualities, that a love for its masterpieces can be engendered and the architect rewarded; for the architect's principal reward is the enthusiasm and gratitude his works excite."

It is a hopeful sign of the times and an encouragement to the rising generation of architects to read in the *Spectator* of a fortnight ago the admirable article entitled "Civic Pride." The inspiring theme was the possibilities that may result from the new scheme of historical teaching which is to be introduced into primary schools in London. The idea is to take the history of our great Metropolis as a whole, and to demonstrate the development of civic institutions and the place London holds in the history of the country. The *Spectator* makes it apparent that the average Londoner has lost all sense of civic pride, and that he compares most unfavourably in this regard with the provincial townsman. If Londoners were familiar with the greatness of their past, they would simultaneously understand the greatness of the responsibility it imposes upon them. Crosby Hall, which should be jealously guarded as a sacred relic preserved for us by our ancestors, is in danger, and it is left to a few cultivated citizens, whose enthusiasm may be mistaken for whimsicality, to agitate against its destruction. Here is a case where the expression of strong and widespread public feeling would have averted the danger at its very first threatening.

The *Spectator* instances a few points which might be rammed home in the process of cultivating in our children the virtue of civic pride. Concern for the appearance of London would be only one of several of its aspects. "Children should be told that, whatever London used to be, it is no longer an ugly place. Paris is beautiful for the arrangement of its vast spaces, but its public buildings do not match those of London. London grows in beauty yearly. This is a great building age, and our young architects are fast removing the blots upon their profession. Town children are often taught what they may observe in the country—where they seldom go—but if the faculty of observation be encouraged among the objects of a town, it will work automatically afterwards in all places and at all times. It can be encouraged first only on things which are continually before the eyes. Thus the buildings of London might become for the child an epitome of history. The child would be an exception to the present rule, and would go sight-seeing in his own city. He would learn the greatness of Wren; he would trace in old terraces the work or influence of the brothers Adam; he would learn that the Savoy is not only the name of an hotel and a theatre; he would appreciate the antiquarian learning of Mr. Gomme which evolved the splendidly apt names Kingsway and Aldwych and made all other suggestions look foolish; he would have an eye capable of seeing the beauty of New Scotland Yard." Here is something to hope for. When the dream of the *Spectator* is realised, we shall have moved on a pace.

REVIEWS.

HISTORY OF ARCHITECTURE.

A History of Architecture, having special regard to the natural artistic results of construction and those methods of design which are the result of abstract thinking and of the pure sense of form. By Russell Sturgis, A.M., Ph.D. Vol. I. Antiquity. 340 *illustrations. La.8o. Lond. & New York.* 1906. [*B. T. Batsford*, 94 *High Holborn.*]

In this work, which is a valuable addition to architectural literature, we have a painstaking and successful effort to combine in an attractive form personal observation and all the sources of information available, and to put them before the reader in a manner unusually free from the stereotyped form of a general architectural history. Its illustration is extremely well done by means of a large proportion of excellent photographs and by drawings mostly borrowed from other authorities. As one example among many of complete illustration of the points referred to in the text may be taken that of the Basilica of Shakka.

One might almost say that the very attractiveness of the book would prove its weakness from the point of view of the strenuous architectural student, who will perhaps look for something more technical, for more light on detailed designing and on æsthetic values. But he will also be greedy and ask for it with the sacrifice of little of the existing contents of these pages.

The plan of the book is admirably laid down and well carried out. Constructive details are not wanting, and are often admirably shown by carefully taken photographs, while due importance is given to the use of materials and their influence upon building.

The history and general development of the Greek and Roman orders naturally takes a large place in this volume, and historically they are interestingly treated; but methods and objects of design are not as much touched upon as one could wish, though one point is well brought out, which the student sometimes does not realise, that the Greek builders treated their design with much more freedom and variation than the study of stock examples leads him to believe.

Discussions as to principles of design are not always adequate or convincing. Take, for instance, the opinion expressed on the function of detail, or the dictum that without elaborate sculpture it (architecture) cannot reach its highest development.

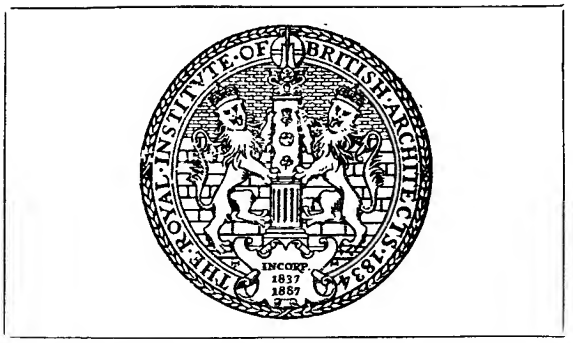
It must be confessed that there are corrections which should, and will no doubt, be made in future editions. The writing is not always faultless, and the sense is somtimes obscure, as in the sentence on p. 144: "A theoretical reconstruction . . . long and narrow." Solutions of difficulties are not often attempted, but in one case where hopes are raised by the words: "Some suggestions are as follows, viz.," one suggestion only follows, with a note on oriental fenestration — which is disappointing. The confusion of the temple of Zeus at Olympia with the Parthenon, on p. 183, should not have escaped notice, nor such verbal slips, *inter alia*, as "border" for "order," or "four" for "three." In future editions M. Choisy's Egyptian book will of course have to be added to the books of reference.

For the complete understanding of architectural history the student must be familiar with the history of the builders themselves, and it is recognised in some universities where an architectural school exists that the study of the two should proceed *pari passu* under an architectural and an historical professor. It is impossible to expect a single author to undertake so huge a task, though, so far as it is attempted in these pages, the book gains by linking human interest to architectural achievement. It would not, however, be difficult, by references to a judicious and fairly complete list of works, to help the student to realise the important developments of various epochs, and this would be a great addition to any architectural history. But there should certainly be added to this volume a full index to the text as well as to the illustrations, and the latter would be rendered much more useful if they were more fully accompanied by scales, which are essential for plans, and especially valuable in the case of photographs of detail.

The amount of information crowded into these 425 pages is enormous, and the author would hardly be human if there were not some faults to find among them; but the history is graphically told and the interest unflagging, though where choice is difficult we should say that the beginning and end of the volume—the chapters on Egypt and Rome—were the most fascinating of all. The treatment of the illustrations in these chapters is in many respects the best, and if there is in the former some want of chronological clearness, the vastness of Egyptian periods, the continuous development along the lines of local tradition in spite of successive foreign occupations, is well brought out, and the appeal to the imagination is well made both in this and the story of Roman architecture and its connection with the spirit of imperial predominance and colonisation and expansion.

We look forward to the early production of Mr. Sturgis's other two volumes, and congratulate the author on a notable commencement to his history.

Manchester. PERCY S. WORTHINGTON.



9, Conduit Street, London, W., 19*th October* 1907.

CHRONICLE.

The Committee of Architects on St. Paul's.

In the note on St. Paul's Cathedral in the September issue of the Journal omission was inadvertently made of the President's name from the Committee of Architects who have recently reported upon the building. The Committee were appointed by the Dean and Chapter, and consisted of Mr. Thomas E. Collcutt, *President R.I.B.A.*; Sir Aston Webb, R.A., and Mr. John Belcher, A.R.A., *Past Presidents*; and Mr. Mervyn Macartney [*F.*], Surveyor to the Fabric.

Sessional Programme 1907-8.

The first meeting of the Session will be held Monday, 4th November, when the President, Mr. Thomas E. Collcutt, will deliver the Opening Address. Arrangements have been made for the reading of the following Papers during the Session: —18th Nov.: The Present Condition of St. Paul's Cathedral, by Mervyn Macartney [*F.*].—16th Dec.: Means of Escape from Fire in Modern Factories and Warehouse Buildings, with reference to the London Building Acts Amendment Act, by Wm. Woodward [*F.*].—20th Jan.: Royal Palaces in Scotland, by W. T. Oldrieve, F.S.A. Scot. [*F.*].—17th Feb.: Foundations, the Use of Divers, and the Grouting Machine, by Francis Fox, M.Inst. C.E. —16th March: A Modern Asylum: Bangour Village, near Edinburgh, by Hippolyte J. Blanc, R.S.A. [*F.*].—30th March: Theatre Planning.—13th April: The Designs for the London County Hall.—16th May: London Bridges, by Professor Beresford Pite [*F.*]. The President will deliver an Address to Students on 3rd February, when the Presentation of Prizes will take place. The Annual Exhibition of Drawings submitted in competition for the Prizes and Studentships in the gift of the Institute will be held from the 21st January to the 1st February.

Exhibition of Prix de Rome Drawings at the Institute.

By the courtesy of the French Government the President of the Institute has been able to arrange for the exhibition early in the Session of the beautiful drawings made by M. Jean Hulot during his tenure of the Grand Prix de Rome. The drawings, which have been on view at the Paris Salon, comprise a series of studies for the restoration of the Ruins of Selinus, Sicily.

The New County Hall Competition.

The following statement has been received from the London County Council:—

The London County Council has received from Mr. Norman Shaw, R.A., and Mr. W. E. Riley [*F.*], the two Assessors appointed to act for it in connection with the competition for designs for the new County Hall, their report on the result of the preliminary stage of the competition.

The Assessors state that there were sent in 99 designs, the work of 152 architects, some of whom worked independently and others in collaboration. Of these architects eight were of foreign birth. To illustrate the designs 1,199 drawings were submitted.

The duties of the Assessors were to select not less than 10 and not more than 15 designs with a view to the authors thereof competing, with the eight architects already selected by the Council, in the final stage of the competition.

There was no doubt in the minds of the Assessors that the maximum number (15) of designs required could be found among those sent in. The names of the 15 authors of designs selected by the Assessors are:—Mr. R. F. Atkinson [*F.*], Mr. H. J. Blanc [*F.*], R.S.A., Mr. G. Washington Browne, Mr. T. Davison [*A.*], Mr. M. J. Dawson [*A.*], Mr. J. B. Fulton [*A.*]. Messrs. Gardner & Hill, Mr. W. Haywood, Messrs. Houston & Horne, Messrs. Jemmett & McCombie, Mr. R. Knott, Messrs. A. Marshall Mackenzie [*F.*], A.R.S.A., & Son, Messrs. Russell & Cooper [*FF.*], Messrs. Warwick & Hall [*AA.*], Messrs. Clyde Young & E. W. Poley [*AA.*].

The names of the eight architects selected by the Council are:—Mr. J. Belcher. A.R.A., *Past President R.I.B.A.*, Mr. Wm. Flockhart [*F.*], Mr. Ernest George [*F.*], Mr. Henry T. Hare [*F.*], Mr. T. G. Jackson, R.A., Mr. E. L. Lutyens [*F.*], Mr. E. W. Mountford [*F.*], Messrs. Nicholson & Corlette (Sir Charles Nicholson, Bart., M.A. [*F.*], and Mr. H. C. Corlette [*F.*]).

Other architects of distinction were asked by the Council whether they were willing to compete, but they were unable to accept the invitation.

The committee dealing with the matter desire in the name of the Council to thank all the competitors for the response made to the Council's invitation, and for the great amount of work and thought which has been expended in maturing the designs submitted.

Several competitors have written asking for explanations of the rejection of their designs. To do this would practically necessitate a report from the Assessors on each design, and no such departure from the ordinary course as the requests imply can be made.

Crosby Hall Preservation Scheme.

The meeting held on the 1st inst. at the Mansion House, by invitation of the Lord Mayor, to consider ways and means of preserving Crosby Hall was attended by a large and representative company from the City Guilds and kindred institutions. The

Lord Mayor in opening the proceedings said he felt he should not be worthy of his office if he did not help the citizens to keep with them a cherished monument which had come down to them from the Middle Ages. Sir Vezey Strong, who afterwards took the chair, said their object was to preserve, if at all possible, the ancient portion of Crosby Hall, not only as one of the oldest and finest examples of the magnificence of the buildings of the Middle Ages, but that it might serve in the present day to be an appropriate, convenient, and worthy centre where the representatives of the old Guilds may meet the representatives of the new societies and organisations that are concerned in promoting the highest efficiency and social welfare of our workers, and helping forward the industrial progress of the nation. Discussing the financial position, Sir Vezey Strong said that the maximum cost of the freehold land which had to be acquired to exchange with the Bank for the land on which the old building stood was estimated to be £50,000. The maximum amount required to buy out the interests of leaseholders and compensate tenants for immediate disturbance was calculated at £60,000. The maximum amount required to make an alteration to a part of a house affected by the entrance to Great St. Helen's and to put the old hall and building in a state for occupation was £10,000. Of this sum of £120,000 it was proposed to raise part upon mortgage of the property itself, part from the contributions of the Guilds—particularly those which had been deprived of their halls to make way for the various City improvement schemes of recent times—and the remaining sum it was proposed to raise by public subscription. It was believed that this subscription from public sources would carry with it a wide, general, and continuing interest in the work which might in the future be carried on in the old building under the co-operative efforts and influences of the ancient Guilds and modern societies having kindred aims. The larger Guilds possessing halls of their own, like the Goldsmiths, the Fishmongers, the Carpenters, the Clothworkers, the Stationers, and others, were engaged in the objects for which they were originally founded, but they and other companies also contributed to maintain the great City and Guilds of London Institute for the promotion of technological and higher general education. But a number of the minor guilds—as the Clockmakers, Tylers and Bricklayers, Farriers, Turners, Spectacle-Makers, Needle-Makers, Paviors, Masons, Plumbers, and many others—were more directly engaged in promoting the training of members of their own craft and in other objects affecting the welfare of the national industries. Would it be too much to ask that for such a scheme the twelve principal companies, with large funds at their disposal, should contribute, say, £2,000 each? Following upon such a lead, might they not reasonably expect, say, £20,000 to be subscribed by the interested public, from whom they had already received several offers, and from the minor companies, who would conjointly derive the benefit already suggested, from which number they had already received the gratifying assurance of help, accompanied by a definite offer of £500 from the Plumbers' Company, to be supplemented by an annual donation of £100. If these suggestions were acted upon, this would leave a sum of £50,000 to be raised on mortgage, which could be secured without difficulty on sound commercial lines. The interest of this amount would be guaranteed by the participating companies and others interested by way of annual rental, leaving, with other commercial assets, such as the letting of the hall, &c., quite sufficient to meet rates and taxes and other outgoings. If this scheme were carried out, it was obvious that the Bank would receive in exchange for the site they surrendered one much more valuable commercially per square foot, in addition to which the number of feet would be about 400 in area, and it would not be unfair to expect payment of, say, at least £25,000.

Sir Vezey Strong expressed the indebtedness of the Preservation Committee to Mr. W. D. Caröe [*F.*], Architect to the Ecclesiastical Commissioners, who, he said, had most kindly and out of pure love for the subject made an exhaustive survey of the buildings. Mr. Caröe had been the means also of securing the interest of the Skinners' Company, the Commissioners of the City Parochial Foundation, and other freeholders, and had negotiated with the directors of the Chartered Bank in the interests of the scheme.

Mr. W. D. Caröe, addressing the meeting, said:—Crosby Hall is one of the few mediæval buildings we possess having an absolutely complete pedigree. From the date of its erection down to our own day we have an uninterrupted record of its detailed history, and the name of every one of its owners and occupiers—from High Sheriff Sir John Crosby, Richard III., and Sir Thomas More, down to the Chartered Bank of India, Australia, and China. Erected by a Sheriff of the City of London, it has three times been the property of a Lord Mayor. One of them held his Mayoralty in state within its walls. It has once before been in the occupation of a company of London merchants trading with the East Indies, who helped to preserve it for us. Its fate was as nearly sealed as at present in the year 1831, when it was rescued by some public-spirited men, and by the aid of public money was put into substantial structural repair by Mr. Blore, F.S.A., the architect to Westminster Abbey, and the leading expert in such work of his age. Funds falling short for the completion of its equipment, the late Miss Hackett stepped in, paid off arrears, and continued the work at her own cost. Finally, Mr. H. R. Williams and some two or three other influential City men brought the work to completion, and founded in it the Crosby Hall Literary and Scientific Institution. . . . . I am asked to give my views as to the condition of the build-

ing and its possibilities. I am glad to be able to report to you that the fabric is absolutely stable. It is safe to say that, if permitted to remain, it has an unlimited life before it. It has, of course, the mask of a modern restaurant over it, but that is only a thin veneer, which cannot cover the bed-rock facts, which are these: We have before us a piece of design and workmanship executed at a period when architecture was the first of the arts, and when the individual craftsmen were artists in the highest sense of the term—artists literally to their fingers' ends. It has a value of its own second to no other building in the City. As a piece of design, it may be held up for all time as a classic example of architectural skill and conception. To the architectural scholar it is a Gainsborough or a Reynolds in architecture. I refer specially to the balance of its parts; to the interdependence between windows and roofs; and very specially to the masterly manner in which the great oriel is managed. . . . . The building possesses a fine and dry vaultage undercroft or chamber, which continues from Great St. Helen's to Crosby Square, and has been used recently as a special banqueting hall. The north end of the hall is occupied by a four-storied building facing upon Great St. Helen's. Of this the lower part is ancient, and contains the ancient entrance door giving upon St. Helen's, formerly known as the Priory Close. This building was used as kitchens during the recent occupancy, and readily lends itself to adaptation to similar or fresh needs. There is also a room over the gallery at the south end which was formerly used as a lecture room; and there is a large roof space over the ceiling of the hall which can be brought into use. These buildings can be enlarged by raising, at small cost, if occasion demands, without in any way interfering with the Hall. If further accommodation for office or other needs is wanted it can be obtained. I have received from the Chartered Bank a letter saying that they have an option over an adjoining property, which they will be glad to transfer. That, I think, indicates their desire to aid our object very clearly. Let me close by asking those interested not to be dismayed by any reports they may hear as to those parts of the building adjacent to the Hall which have just been demolished. These were well known to us to have been erected in 1834, incorporating only the remains of two ancient walls once forming part of the chambers adjacent to the Hall. No injury has been done to the Hall itself by their disappearance, and no slight is to be cast on the Hall because these parts adjacent were not ancient. I would join in hoping for the success of this meeting, which gives the final opportunity for London to justify her civic pride, on behalf of which alone this appeal is worth making and working for. Other agencies have failed in securing the object for which we are assembled. The last chance of success lies only with the historic Guilds of the City of London. Sir Vezey Strong has shown in what direction success lies. It is a matter of co-operative effort and determination, and it is a rare occasion to which the Guilds will surely rise. As many of the Courts are held within a week from now, I would suggest finally that a deputation appointed by this meeting should wait upon the Bank to beg them to stay their hands for a few days until those meetings are held. Then success may have been achieved.

Sir William Dunn having dealt with the financial aspect of the matter, Mr. C. Sturge (Chairman of the Historical Records Sub-Committee, London County Council) proposed the following resolution, which was seconded by Colonel Pearson, and carried unanimously:—

"That this public meeting at the Mansion House, summoned to consider measures for the preservation of the historic building of Crosby Hall, heartily approves the scheme submitted to the meeting as explained by Alderman Sir Vezey Strong, Sir William Dunn, and Mr. W. D. Caröe, and pledges itself to support such scheme, and the appointment of a small committee under the presidency of the Lord Mayor (Sir William Treloar), to confer with the directors of the Chartered Bank of India, Australia, and China, and all the interests, with a view to carrying the scheme into effect."

The members of the Guilds present promised to submit the matter to their courts, with the recommendation that it should be favourably entertained.

Since the above meeting, a Fund has been opened by the Provisional Committee, and public subscriptions are invited, which should be paid to the credit of the "Crosby Hall Preservation Fund," Bank of England.

The Provisional Committee met at the Guildhall on 15th October, Sir Vezey Strong presiding. A communication was read from Lord Rosebery expressing strong sympathy with the effort being made to preserve the historic building. It was reported that the donations received and promised amounted to about £5000, spread over upwards of 300 contributors. Sir Vezey Strong and members of the Committee had an interview with the Chairman of the Chartered Bank, and proposed that in view of the generally favourable response to the Committee's appeal, and the growing public interest in the object, the Bank should grant an extension of time for donations to be received to the end of the present month.

The Board of Directors met on the 16th, and the following is an extract from a letter of the same date addressed from the Board to Sir Vezey Strong:—

"The directors learned with regret that your hopes of being able within the fortnight to raise such a sum as would render the successful accomplishment of your scheme probable have been disappointed. The fact that your exertions have hitherto only resulted in raising the small sum of £5000 appears to indicate that public interest in the matter is not sufficiently strong to justify any expectation that the large sum required for the fulfilment of

your project will be forthcoming; nor can the directors feel satisfied that your estimate of the probable cost is at all adequate. Even assuming that the necessary sum were raised, the directors cannot rely with any confidence upon obtaining vacant possession of the premises which you propose to substitute for the banqueting-hall, in time to permit of building operations being commenced before April 1 next. Apart from the serious inconvenience which this delay would cause, further heavy pecuniary loss would fall upon the bank.

"Weighty as these objections appear to the directors, they are unwilling to do anything which might prove prejudicial to the efforts of the committee, and they accordingly consent to the further extension of fourteen days asked for, on condition, as verbally agreed yesterday, that if at the end of that period you are not in a position to satisfy our legal advisers that the scheme can be carried through, it must be abandoned, and no further application be made to us on the subject."

The Bank of England, recognising the importance and the national character of the appeal, have allowed notices of the preservation scheme to be exhibited on the premises of the Bank.

Lord Avebury has accepted a seat on the General Committee.

Crosby Hall Fund: Donation from the Institute.

The following letter from the President of the Institute appeared in *The Times* of the 14th inst.:

SIR,—May I be permitted to suggest that, as the public are invited to subscribe towards the fund necessary for the preservation of Crosby Hall, some guarantee should be given that they should have access to view the building, at periods convenient to the various City Companies, who will probably be the joint occupiers?

I should like to add that the Royal Institute of British Architects have taken active steps towards the very desirable object of securing intact this fine example of the later Gothic work.

The Council of the Institute is now in recess, but I am venturing to offer on their behalf a donation of 100 guineas to the fund, on the understanding that some means may be found to secure to the public a right to visit the building at periods to be determined.—Your obedient servant,

THOS. E. COLLCUTT,
President R.I.B.A.

On the 15th inst. the following letter was addressed from the Institute to the Chairman of the Crosby Hall Provisional Committee:—

DEAR SIR,—I have the pleasure to inform you that the offer made by our President, Mr. Thomas E. Collcutt, in his letter to *The Times* of yesterday morning, was unanimously confirmed by the Council of the Royal Institute at their meeting yesterday afternoon, and I am directed by them to enclose you their cheque for 100 guineas on the condition mentioned in the President's letter, viz.: "That some means may be found to secure to the public a right to visit the building at periods to be determined."—I am, dear Sir, yours faithfully,

W. J. LOCKE,
Secretary R.I.B.A.

International Congress of Hygiene.

Mr. John Slater [*F.*], who with the President had been appointed by the Council to represent the Institute at the International Congress of Hygiene and Demography at Berlin, reports to the Council as follows:—

I beg leave to report, for the information of the Council, that I attended—as representing the R.I.B.A.—the meetings of the Fourteenth International Congress of Hygiene and Demography at Berlin. Much to my regret the President, who had intended to be present, was prevented from going.

The Congress was opened on Monday morning, 23rd September, under the presidency of Prince Heinrich zu Schönaich-Carolath, when the Minister for Fine Arts made an interesting speech explaining the aims and objects of the Congress, and welcoming the foreign delegates. Short speeches were also delivered by representatives of foreign countries. This meeting was honoured by the presence of His Royal and Imperial Highness the Crown Prince.

The sectional meetings, which were held in the Reichstagsgebaude, commenced on Tuesday, the 24th September, and were largely attended. The medical side of hygiene was much more prominent than the architectural. Crowded meetings were held, and animated discussions took place on "The Etiology of Tuberculosis," "State Control of Food-stuffs," "Infant Mortality," "Instruction in Hygiene for all Inspectors of Industries," and various other subjects of the greatest possible interest to the community at large.

In Section 6A an interesting discussion took place on the subject of the Provision of Dwellings for the Poorer Classes, the majority of the continental delegates being of opinion that the sites for such dwellings should be provided by the municipality, but that the actual erection of the buildings themselves should be left to private enterprise. Other subjects discussed in this section were "The Provision of Homes for Single Persons," and the "Hygienic Importance of various Modern Appliances for Artificial Lighting." In connection with the Congress there was a large and complete exhibition of all kinds of medical and hygienic apparatus, appliances, &c., sent in by Hygienic Institutes, public institutions, municipalities, and private firms, showing the most recent results of experimental and scientific investigation, and the best products of technical industry in the domain of hygiene.

The city of Berlin extended a warm welcome to all the delegates, and the social functions were numerous and admirably arranged.

The closing meeting was held on Sunday the 29th September, when it was decided to hold the next Hygiene Congress in Washington. Most brilliant weather prevailed during the whole time, and this largely contributed to the success of the Congress.

JOHN SLATER.

12th October 1907.

The Strand Frontage Question.

The London County Council have adopted the recommendation of its Improvement Committee, and have confirmed definitively its decisions of 20th October 1903 and 4th December 1906, to the effect that no alteration be made in the present northern line of frontage in the Strand between Wellington Street and the Law Courts. They state that in their opinion no suggestion has been made which offers sufficient advantage to justify the Council in incurring the heavy loss which would be involved in increasing the already adequate width (100 feet) of the portion of the thoroughfare in question.

London Improvements.

Extensive improvements are being carried out at Constitution Hill and at the Wellington Arch, through which the thoroughfare leads to Hyde Park Corner. In about two years the Mall will be opened into Charing Cross, and much of the light traffic which now goes westward by Piccadilly will then be diverted along the Mall and Constitution Hill; and it is in view of this increased traffic that the width of the road from Buckingham Palace to the Wellington Arch is being increased from about 50 feet to 95 feet. Between the wall of Buckingham Palace Gardens and the railings on the south side of Constitution Hill there has hitherto been some ten or twelve feet of grass and a row of trees. Under the new scheme this space will form part of a footpath 15 feet wide, the wall forming the south boundary of the road. For wheel traffic 50 feet have been allotted instead of, as at present, about 30 feet. Upon the north side the railings have been thrown back into the Green Park to allow for a new ride 30 feet in width. The path on this side of the road will be inside the park railings. The "bottle-neck" entrance from the Wellington Arch is to be altered so as to prevent congestion as far as possible. On the eastern side of the arch, instead of a somewhat cramped space, there will be a square 145 feet from west to east and 150 feet from north to south. The boundaries of this square will be low walls surmounted by iron railings, and at each of the corners will be erected stone pillars of a style in keeping with the arch. The work, which is being carried out under the direction of the Office of Works, will cost £18,000.

The Parliamentary Committee of the St. Pancras Borough Council in a report just issued state that they have considered a letter from the London County Council pointing out that a favourable opportunity has arisen for the formation of a new street between Gray's Inn Road and Pentonville Road at a point opposite Caledonian Road, by a bridge across the centre of the Metropolitan Railway Company's King Cross Station. The company are proposing to alter the station and booking offices, and, as a result of preliminary negotiations, it appears that the cost of the complete improvement may be estimated at £40,000, which the company consider reasonable. The Improvements Committee of the County Council propose that a street 60 feet wide should be constructed, and they consider that by this means the congestion of traffic at the junction of Gray's Inn and Pentonville Roads will be relieved.

National Portrait Gallery: Contemplated Extension.

In the House of Lords recently Lord Weardale asked His Majesty's Government whether they were aware of the grave fire and other risks to which the National Portrait Gallery was exposed by reason of the close proximity of the canteen and prison belonging to St. George's Barracks, and whether they would take steps, as in the case of the National Gallery, to isolate the National Portrait Gallery by the transference of these buildings to some other position in the area occupied by the barracks; and whether His Majesty's Government would, in the event of a decision to remove the barracks to some other locality, have due regard in the allocation of the vacant space to the claims of the National Portrait Gallery, and the urgent necessity for some increase in the accommodation provided for the national collection of portraits. The Earl of Portsmouth, in reply, said he had gone very carefully into this matter, because he sympathised very much with the object of Lord Weardale. The Government were not prepared, however, to admit that the proximity of the St. George's Barracks involved greater danger than that of other buildings in the neighbourhood. The Garrick public-house was really nearer to the National Portrait Gallery than the canteen of the barracks. The St. George's Barracks, however, were entirely inadequate and unsuitable for their present purpose as a central recruiting depot in London, and another site had been selected in Old Scotland Yard, with the view of new buildings being erected thereon by the Office of Works. The recruiting authorities at the War Office were willing on these conditions to vacate St. George's Barracks when the new buildings were ready. Lord Weardale pointed out that quite recently a fire broke out in the canteen in question, which abutted upon the National Portrait Gallery. The matter was of some urgency and ought to be attended to at once. Lord Allendale said he had been asked by the First Commissioner of Works to state that Mr. Harcourt hoped, when the military buildings for recruiting purposes were provided in Old Scotland Yard, there would be facilities for an extension of the existing buildings of the National Portrait Gallery. The negotiations were now proceeding, and it was anticipated that the matter would be settled in the course of the next few months. The Earl of Donoughmore expressed the hope that the new barracks would be buildings worthy of the Army.

International Congress of Architects, Vienna, 1908.

The programme so far arranged is as follows:—

Monday, 18th May.—Meeting in hall of the Architects' and Engineers' Association.—Public opening of the Congress in the Assembly Hall of the Imperial Palace.—Excursions through the City.—Reunion in the Künstlerhaus in the Fine Arts Palace; entertainment by the Sculptural Society of Vienna.

Tuesday, 19th May.—First section in the hall of the Engineers' and Architects' Association of Vienna; second section in the Trades Union Hall.—Conferences with Professor Karl Konig and Mr. Bauer.—Visit to the Exposition of Prater; excursion to Kahlenberg.—Dinner given by the Austrian Society of Engineers and Architects.

Wednesday, 20th May.—Business meetings and conferences in the halls as above.—Excursion to Klosternenberg and to the Château of Kreutzenstein.—Reception at the Imperial Court.

Thursday, 21st May.—The entire day to be devoted to an excursion to Semmering.

Friday, 22nd May.—Business meetings and conferences.—Visit to the city library.—Reception in the Rathaus.

Saturday, 23rd May.—Closing meeting.—Promenades, visits, &c.—Closing banquet.

The following subjects are to be discussed:

(1) State of Legislation on Copyright in Design; (2) Organisation of International Competitions in Architecture; (3) The Legal Qualification of an Architect; (4) Preservation of Public Architectural Monuments; (5) Reinforced Concrete Construction; (6) The Public Administration of the Fine Arts: the Utility of, the Dangers of, and the Methods of Organisation; (7) To Safeguard the Artistic Interest in Municipal Building Ordinances; (8) The Modification of the Business Methods of the International Congress.

Papers are promised by Professor Karl Konig on the Influences and Tendencies of Modern Art on Architecture; by Mr. Leopold Bauer on the Influence of Historic Styles on the Development and Forms of Modern Architecture; by Professor Meydenbauer, Berlin, on Measurements of Light; by M. Daumet, Paris, on the subject of Architecture.

School of Art Wood-carving.

We are asked to announce that the School of Art Wood-carving, South Kensington, which now occupies rooms on the top floor of the new building of the Royal School of Art Needlework in Exhibition Road, has been re-opened after the usual summer vacation, and that some of the free studentships maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 10 to 1 and 2 to 5 on five days of the week, and from 10 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. Forms of application for the free studentships and any further particulars may be obtained from the manager.

The late William Leck [*F.*].

Mr. Arthur H. Reid [*F.*], Hon. Sec. R.I.B.A. for S. Africa, kindly contributes the following notice:—

To the regret of all who knew him, William Leck died at Durban, Natal, from an attack of pneumonia on 9th August 1907, aged about fifty-five years, and was interred at Johannesburg, Transvaal Colony, on 12th August.

Commencing in 1870, Mr. Leck served a five years' apprenticeship with the late Mr. Francis Stirrat in Belfast, and afterwards assisted Messrs. Thomson & Turnbull, J. Burnet & Son (Glasgow), Fred Wheeler, the late William Young, and Ernest George & Peto. He was a student at the Royal Academy Schools. In 1889 he migrated to the Transvaal Republic and opened an office in Pretoria, subsequently settling in Johannesburg, where he was latterly associated with Mr. Frank Emley. He was elected a Fellow of the Royal Institute of British Architects in 1904, and served as President of the Transvaal Institute of Architects with the utmost distinction. He was an active worker in the South African Association for the Advancement of Science, and an able contributor to many publications of a scientific and artistic nature.

A lover of peace, Mr. Leck persistently refused to enter the arena of public life, and this resolution left him in such an uncompromised position that his independent, shrewd, and kindly advice was often sought by his professional brethren and friends when troubles arose. Among his principal works at Johannesburg are the Rand Club, New Stock Exchange, Eckstein's Buildings, with the adjoining National Bank and the Public Library, though these by no means cover the extent of his works in and around Johannesburg, where he did his share to convert a wilderness into one of the most desirable and beautiful centres of modern civilisation.

His funeral was largely attended by all grades of local society, and the following professional brethren were present or represented:—Messrs. Baker & Masey, Beardwood, Cottrill, Clayton, Dickson, Emley, Hosking, Reid & East, Stokes & Stucke, while tokens of respect were sent by the Transvaal Institute of Architects, Transvaal Society of Quantity Surveyors, Johannesburg Master Builders' Association, Caledonian Society, Young Men's Christian Association, Town Council, Chamber of Commerce, Chamber of Mines, Rand Club, and many other local institutions that the deceased had interested himself in. He lived respected and died regretted by all.